

People
Capability Maturity Model

The Predictable Level — Maturity Level 4

Process Areas at the Predictable Level focus on exploiting the knowledge and experience of the workforce framework developed at Level 3. The competency-based processes used by different workforce competencies are interwoven to create integrated, multidisciplinary processes. Workgroups are empowered to manage their own work processes and conduct some of their internal workforce activities. The artifacts produced through the performance of competency-based processes are captured and developed for reuse. Individuals and workgroups quantitatively manage the competency-based processes that are important for achieving their performance objectives. The organization manages the capability of its workforce and of the competency-based processes they perform. The effect of workforce practices on these capabilities is evaluated and corrective actions taken if necessary. Mentors use infrastructure provided by the organization's workforce competencies to assist individuals and workgroups in developing their capability. The process areas at Maturity Level 4 include:

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Competency Integration

A process area at Maturity Level 4: Predictable

Purpose **The purpose of Competency Integration is to improve the efficiency and agility of interdependent work by integrating the process abilities of different workforce competencies.**

Description *An integrated competency-based process* is one that has been integrated from the separate competency-based processes used by different workforce competencies. At the Defined Level of the People CMM, individuals used defined interfaces between their separate competency-based processes to manage mutual dependencies. An integrated competency-based process is formed from integrating and interweaving different competency-based processes to achieve a seamless process-based interaction among individuals possessing different workforce competencies. These integrated competency-based processes provide for much more tightly interlaced interactions among different competency communities that allow problems among product, service, or work dependencies to be identified and corrected much earlier. Thus, individuals with different workforce competencies work together using a single, integrated, multi-disciplinary process, rather than working separately using the independent processes of their respective competencies or disciplines.

Integrated competency-based processes are beneficial to product design teams by accelerating the processes of making design decisions and identifying and correcting design problems. They are beneficial to product production teams by increasing flexibility in designing work procedures and by avoiding problems with workflows isolated within functions. They are also beneficial to service delivery teams by integrating the workforce competencies required to satisfy a customer's needs. For simplicity of expression throughout the Predictable and Optimizing maturity levels of the People CMM, the phrase "competency-based processes" will be used to refer to both the competency-based processes defined in the Competency Analysis process area and the integrated competency-based

processes defined in the Competency Integration process area. Thus, “competency-based processes” could refer either to the processes of a single workforce competency, or to multi-disciplinary processes integrated from the processes of several workforce competencies.

Competency Integration involves analyzing work to identify high leverage opportunities to integrate the processes used by different workforce competencies. These integrated competency-based processes are defined and work situations are tailored for their use. Individuals involved in multi-disciplinary activities receive the preparation needed to work in a multi-disciplinary environment. Multi-disciplinary work is reviewed with regard to status, development needs, and improvement opportunities. Workforce practices and activities such as staffing, performance management, compensation, and arranging the work environment are adjusted to support multi-disciplinary work using integrated competency-based processes.

Goals

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| Goal 1 | The competency-based processes employed by different workforce competencies are integrated to improve the efficiency of interdependent work. |
| Goal 2 | Integrated competency-based processes are used in performing work that involves dependencies among several workforce competencies. |
| Goal 3 | Workforce practices are designed to support multi-disciplinary work. |
| Goal 4 | Competency Integration practices are institutionalized to ensure they are performed as defined organizational processes. |

Commitment to Perform

Commitment 1 The organization establishes and maintains a documented policy for conducting Competency Integration activities.

Issues typically addressed in the policy include:

1. Competency Integration activities serve the business objectives and stated values of the organization.
2. Competency Integration activities are included in the organization's strategic workforce plan and the planned workforce activities within units.
3. Competency Integration activities are conducted to improve the efficiency of committed work that involves substantial dependencies among individuals possessing different workforce competencies.
4. Procedures are developed for guiding the organization's Competency Integration activities. These procedures typically specify:
 - ☐ how work is to be analyzed and designed to integrate the process abilities of different workforce competencies,
 - ☐ how integrated competency-based processes are defined and maintained,
 - ☐ how individuals and workgroups are prepared to use integrated competency-based processes, and
 - ☐ how workforce practices and activities are adjusted to support competency integration.
5. Competency Integration practices and activities comply with relevant laws, regulations, and organizational policies.

Commitment 2 An organizational role(s) is assigned responsibility for coordinating Competency Integration activities across the organization.

Ability to Perform

Ability 1 **Within relevant organizational units or other entities, an individual(s) is assigned responsibility and authority for ensuring that Competency Integration activities are performed.**

When all activities for integrating multiples workforce competencies can be conducted within a single unit, such as an engineering department or a marketing and sales department, the individual(s) in charge of that unit will usually either accept or delegate responsibility for ensuring that competency integration occurs. In some instances, the workforce competencies to be integrated report into different organizational units (an engineer, a customer service representative, and a marketing specialist). In these instances, a virtual management team composed of management delegates from the different organizational units may assume responsibility for integrating multiple workforce competencies.

Ability 2 **A responsible individual(s) coordinates the activities for defining, developing, and maintaining each integrated competency-based process.**

Ability 3 **Adequate resources are provided for performing Competency Integration activities.**

1. The work processes to support each of the organization's workforce competencies have been defined.

Refer to Practices 2 and 5 of the Competency Analysis process area for information regarding analyzing and documenting these competency-based processes.

2. Experienced individuals with expertise in process analysis and definition are available for defining integrated competency-based processes.

Examples of individuals with expertise in process analysis and definition include the following:

- Process owners
- Subject matter experts
- Process improvement or quality assurance groups
- Organizational effectiveness or development professionals

3. Resources for supporting Competency Integration activities are made available.

Examples of resources to support competency integration include the following:

- Process analysis and definition tools
- Space for integrated activities
- Communication equipment
- Tools for managing process and role definitions

4. Funding to accomplish Competency Integration activities are made available.
5. Adequate time is made available for defining, training, and facilitating the adoption of integrated competency-based process abilities.

Ability 4

Those involved in defining integrated competency-based processes develop the knowledge, skills, and process abilities needed to perform process analysis and definition.

Ability 5

Affected individuals and workgroups develop the knowledge, skills, and process abilities needed to perform the integrated competency-based processes involved in their work.

1. Documentation of the organization's business activities and processes are made available for analysis.
2. Preparation in integrated competency-based processes is provided to all affected individuals and workgroups.

Preparation in integrated competency-based processes can be planned and delivered in a number of ways, including the following:

- As competency development activities
- As specific training and development activities in personal development plans
- As workgroup development activities

3. Those who manage work performed through integrated competency-based processes receive the preparation needed to manage in multi-disciplinary situations.

Examples of topics to be covered in preparing responsible individuals to manage multi-disciplinary work include the following:

- Typical management approaches and techniques appropriate to each of the workforce competencies involved
- Management techniques appropriate for multi-disciplinary activities
- Techniques for adopting, deploying, and installing integrated competency-based processes
- Diagnosing problems and improvement opportunities in multi-disciplinary work
- Resolving conflicts among different disciplines
- Adjusting and performing workforce practices in multi-disciplinary situations
- Methods for continuously improving multi-disciplinary work

4. Individuals participating in integrated competency-based processes are cross-trained as needed in the competency-based processes employed by other workforce competencies so that they can:
- ☐ better understand the context of integrated competency-based processes,
 - ☐ develop more accurate expectations about how those possessing other workforce competencies may react under changing conditions, and
 - ☐ expand their ability to fill roles in the workgroup that they would not ordinarily undertake.
5. Additional facilitation is made available, as necessary, for workgroups deploying integrated competency-based processes.

6. Additional preparation is made available, as necessary, when integrated competency-based processes are changed.

Ability 6**The practices and procedures for performing Competency Integration are defined and documented.**

1. Practices and procedures are defined and documented at the organizational or unit levels, as appropriate.
2. Guidelines for tailoring the practices and procedures for use in different circumstances are documented and made available, as necessary.
3. The individual(s) assigned responsibility for Competency Integration activities across the organization ensures that defined practices and procedures are:
 - ☐ maintained under version control,
 - ☐ disseminated through appropriate media,
 - ☐ interpreted appropriately for different situations, and
 - ☐ updated through orderly methods.
4. Experiences, lessons learned, measurement results, and improvement information derived from planning and performing Competency Integration practices are captured to support the future use and improvement of the organization's practices.

Practices Performed

Practice 1**Business activities involving dependencies among multiple workforce competencies are identified.**

1. Business activities where individuals representing two or more workforce competencies have shared dependencies or defined interfaces between their competency-based processes are identified and evaluated on such factors as:
 - ☐ how frequently they occur in ordinary business operations,
 - ☐ the opportunity to improve operating efficiency or quality by integrating their processes more tightly,

- ☐ the frequency with which coordination problems occur in these interactions that result in poor efficiency or reduced quality, and
 - ☐ the impact that greater efficiency or accuracy in these operations would have on improving business performance, quality, or customer satisfaction.
2. The organization selects those business activities that involve multiple workforce competencies evaluated as having the most impact on its business performance as candidates for integrating their competency-based processes.

Practice 2**Dependencies and interfaces among multiple workforce competencies are analyzed to identify opportunities for integrating their competency-based processes.**

1. Individuals who perform business activities that involve multiple competencies are involved in analyzing and integrating competency-based processes.
2. Competency-based processes used by different workforce competencies are analyzed to identify opportunities for improved efficiency such as:
- ☐ iterative processes within or among workforce competencies that could be reduced by tighter integration among competency-based processes,
 - ☐ sequential processes within or among workforce competencies that could be performed in parallel,
 - ☐ idle time that could be eliminated by tighter integration,
 - ☐ sources of defects that could be reduced or eliminated, and
 - ☐ joint rather than separate activities that reduce effort, lower costs, shorten schedule, reduce errors, or improve the quality of products or services.
3. Analyses are performed to identify the most efficient methods for integrating competency-based processes for each situation selected for integration.

Situations may differ in the most efficient methods for introducing integrated competency-based processes. Some situations may benefit most from integrating the processes of all involved workforce competencies at once, while other situations may require that different workforce competencies have their processes integrated in stages. For instance, the organization could decide to integrate all of the individuals possessing different workforce competencies involved in a product deployment into a multi-disciplinary product development team from the initiation of a project.

Alternatively, a staged integration would initially involve integrating several engineering disciplines into a multi-disciplinary design team, while other competencies maintain defined interfaces with the development team. Over time, other competencies such as field service, customer training, or marketing may have some of their competency-based processes integrated into the product development team as well.

4. The most efficient methods for integrating multiple competency-based processes are selected.

Examples of options for improving the efficiency of processes performed by multiple workforce competencies include the following:

- Defining an integrated competency-based process that integrates separate, defined processes used by different workforce competencies
- Integrating the performance of multiple competency-based processes
- Re-organizing competency-based processes to improve the timing and coordination of dependencies among several workforce competencies that continue to work independently
- Re-engineering business processes that involve multiple workforce competencies

Practice 3**Integrated competency-based processes are defined and made available for use.**

Examples of integrated competency-based processes include the following:

- An integrated product design process created by integrating the competency-based design processes used independently by software engineers, hardware engineers, usability engineers, manufacturing engineers, and product line specialists
- An integrated customer solution sales process created by integrating the competency-based market research, customer needs forecasting and determination, requirements development, and sales processes used independently by customer relations, marketing, and sales specialists representing a vendor's different product lines
- An integrated supplier management process created by integrating the competency-based processes of purchasing agents, project or product managers, and financial specialists

1. Integrated competency-based processes are defined for use in multi-disciplinary organizational structures, such as multi-disciplinary workgroups.

Examples of concerns that must be addressed in defining integrated competency-based processes include the following:

- Accountability and authority
- Planning to meet common objectives
- Decision-making processes
- Issue and conflict resolution
- Vertical and horizontal communication
- Efficiency of business activities and operations

2. Integrated competency-based processes are documented and made available for guiding those performing business activities involving dependencies among multiple workforce competencies.

Integrated competency-based processes may be made available for use through a variety of media, which may include the following:

- Documents
- Web pages
- Videos and training materials
- Scripts in automated tools
- Other knowledge assets, such as competency-based assets.
Refer to the Competency-Based Assets process area for information regarding the capture and use of competency-based assets.

Practice 4**Work is designed to incorporate integrated competency-based processes, where appropriate.**

When necessary or beneficial:

- ☐ existing business processes and activities that would most benefit from integrating competency-based processes are redesigned to facilitate competency integration,
- ☐ the processes defined for a specific workforce competency are enhanced or redesigned to incorporate integrated processes performed with those possessing other workforce competencies,
- ☐ the defined processes used by workgroups are enhanced with integrated competency-based processes, and
- ☐ new business processes are defined to exploit the benefits of integrated competency-based processes.

Practice 5**Organizational structures support multi-disciplinary work that integrates competency-based processes.**

Different workforce competencies often work in different parts of the organization or report to different managers. Examples of concerns that must be addressed in adjusting organizational structures to better support integrated competency-based processes include the following:

- Accountability and authority
- Decision speed and accuracy
- Vertical and horizontal communication
- Integrity of workforce practices and activities
- Continued evolution of competency integration
- Efficiency of business activities and operations

Examples of how organizational structures can be adjusted to support integrated, multi-disciplinary work include the following:

- Redesigning organizational structures
- Realigning management reporting relationships
- Establishing empowered, multi-disciplinary workgroups
- Establishing integrated management teams that cross organizational boundaries
- Enhancing communication and coordination mechanisms among different organizational components

Practice 6**Skills needed for performing integrated competency-based processes are developed.**

This practice focuses on development needs specific to the performance of integrated competency-based processes. This may involve the multi-disciplinary work of a single workgroup, of multiple interacting workgroups, or of other organizational structures through which multi-disciplinary work is performed. Different instances of multi-disciplinary work may have different development needs. Development needs could be identified that are related to the workforce competencies of individuals (refer to the Competency Development process area), to the workgroup's operating processes (refer to the Workgroup Development or Empowered Workgroups process areas), or to process coordination among those from different workforce competencies (the focus of this process area).

1. A responsible individual analyzes situations in which integrated, competency-based processes are performed to determine development needs.

Examples of responsible individuals who interact with those performing multi-disciplinary processes to analyze and plan for meeting their development needs include the following:

- The individual(s) to whom the a multi-disciplinary workgroup reports
- A management team to which a multi-disciplinary group with members drawn from different parts of the organization reports
- An individual from the training function
- An expert in multi-disciplinary work
- A representative from the human resources function or other appropriate professionals

2. Plans for developing skill in performing integrated, competency-based processes are documented as:
 - ☐ development objectives for the workgroup or other multi-disciplinary entity,
 - ☐ specific training and development actions to achieve these objectives,

- ☐ input to competency development or workgroup development plans and activities, or
 - ☐ the schedule for performing the development activities.
3. Those involved in multi-disciplinary work perform their planned development activities.
 4. Plans are reviewed for the accomplishment of development activities and their impact on multi-disciplinary performance.
 5. Corrective action is taken when development activities do not achieve their intended objective.

Practice 7**The work environment supports work by individuals or workgroups using integrated competency-based processes.**

1. Individuals using integrated competency-based processes for a significant portion of their committed work are co-located to the extent possible.
2. When needed, common workspaces are provided for performing integrated competency-based processes.
3. Communication and coordination tools are provided, as necessary, for performing integrated competency-based processes.
4. Joint access to information that may be specific to a given competency is provided when needed for performing integrated competency-based processes.

Practice 8**Workforce competency descriptions are revised to incorporate integrated competency-based processes.**

Documented descriptions of workforce competencies are revised to include the knowledge, skills, and defined processes required to fulfill business activities using integrated competency-based processes. Refer to Practices 3, 4, and 5 of the Competency Analysis process area for information regarding establishing and maintaining descriptions of workforce competencies and competency-based processes.

Practice 9**Workforce practices and activities are defined and adjusted to support integrated competency-based activities.**

1. Recruiting and selection activities are adjusted, where appropriate, to identify candidates with the skill and willingness to work in interdisciplinary environments and using integrated competency-based processes.
2. Where appropriate, units plan their business activities to expand the use of integrated competency-based processes where they offer performance benefits.
3. Competency development plans and activities are enhanced to include preparation for performing integrated competency-based processes.
4. Communication and coordination activities are enhanced to improve integration and cooperation among different workforce competencies.
5. Performance discussions with individuals or workgroups include feedback on the performance of integrated competency-based processes, where appropriate.
6. Career planning practices and activities incorporate:
 - ☐ capability in integrated competency-based processes among the criteria for advancement, and
 - ☐ the ability to move between workforce competencies as a component of graduated career opportunities, where appropriate.
7. Adjustments to compensation and reward activities reflect capability and performance of integrated competency-based processes.

Practice 10**Workgroups performing integrated competency-based processes tailor and use them for planning committed work.**

1. Workgroups that include members with different workforce competencies define their workgroup processes from tailored combinations of:
 - ☐ the competency-based processes defined for performing business activities unique to each workforce competency involved, and
 - ☐ integrated competency-based processes for performing the business activities in which they share dependencies, and

- ☐ standard workgroup processes tailored for use with interdisciplinary situations.
- 2. The workgroup's integrated processes are used for:
 - ☐ planning their business activities and establishing commitments,
 - ☐ defining roles for workgroup members,
 - ☐ guiding the performance of committed work,
 - ☐ orienting new members to the workgroup,
 - ☐ coordinating work dependencies with other organizational entities, and
 - ☐ collecting data and developing lessons learned.

Practice 11**Workgroups use integrated competency-based processes for work involving multiple workforce competencies.**

1. Work being performed using integrated competency-based processes is reviewed on a periodic or event-driven basis to determine status and make necessary adjustments.
2. If significant deviations of progress from plan are observed, corrective actions are taken, which could include making adjustments or improvements to integrated competency-based processes.
3. Data on the performance of multi-disciplinary work are captured and maintained.

Examples of later uses for performance data and other information on integrated competency-based processes may include the following:

- Estimating and planning multi-disciplinary work
- Establishing benchmarks or capability baselines for integrated competency-based processes
- Analyzing integrated competency-based processes for improvement opportunities
- Evaluating the benefits of integrated competency-based processes

Practice 12**The performance of integrated competency-based processes is evaluated to identify needed adjustments and updates.**

1. Those using integrated competency-based processes to perform at least part of their committed work evaluate these processes on a periodic or event-driven basis to determine needs for adjustment.
2. Adjustments to integrated competency-based processes that are specific to a situation are implemented and recorded.
3. Adjustments that may be generic across situations are recommended for incorporation into the documented integrated competency-based process.

Measurement and Analysis

Measurement 1 Measurements are made and used to determine the status and performance of Competency Integration activities.

Examples of measurements include the following:

- Number and extent of situations employing integrated competency-based processes for performing at least part of their committed work
- Number of integrated competency-based processes defined and in use
- Status of planned activities for defining and employing integrated competency-based processes
- Status of updating learning materials and experiences for preparing individuals or workgroups to perform integrated competency-based processes
- Number of individuals or workgroups trained to perform integrated competency-based processes
- The rate at which the competency-based processes of different workforce competencies are integrated within the organization

Measurement 2 **Measurements are made and used to determine the effectiveness of Competency Integration activities.**

Examples of measures the effectiveness of Competency Integration activities include the following:

- Extent to which business objectives pursued through performing integrated competency-based processes are accomplished
- Performance-based evidence of increases in unit or organizational performance related to competency integration
- Value of performance increases through the use of integrated competency-based processes
- Workforce ratings of the effectiveness of integrated competency-based processes
- Improvements in cost, schedule adherence, time to market, quality, or other performance measures related to the use of integrated competency-based processes

Verifying Implementation

Verification 1 **A responsible individual(s) verifies that the Competency Integration activities are conducted according to the organization's documented policies, practices, procedures, and, where appropriate, plans; and addresses noncompliance.**

These reviews verify that:

1. Competency Integration activities comply with the organization's policies and stated values.
2. Competency Integration activities comply with relevant laws and regulations.
3. Competency Integration activities are performed according to the organization's documented practices and procedures.

4. Noncompliance issues are handled appropriately.

Verification 2

Executive management periodically reviews the Competency Integration activities, status, and results; and resolves issues.

These reviews verify:

1. The appropriateness of Competency Integration activities.
2. Effectiveness of Competency Integration activities at the organizational, competency, and unit levels.
3. Progress in performing Competency Integration activities.
4. Results from reviews of Competency Integration practices and activities.

Refer to Verification 1 for practices regarding reviews of Competency Integration activities to ensure adherence to the following:

- Relevant laws and regulations
- Organizational policies, practices, and procedures

5. Status of resolution of non-compliance issues.
6. Trends related to Competency Integration.
7. Effectiveness of Competency Integration activities in accomplishing multi-disciplinary work.

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Empowered Workgroups

A process area at Level 4: Predictable

Purpose **The purpose of Empowered Workgroups is to invest workgroups with the responsibility and authority for determining how to conduct their business activities most effectively.**

Description *An empowered workgroup* is a workgroup that is granted considerable autonomy in managing and performing its work, and may perform selected workforce practices within the workgroup. The concept of empowered workgroups usually implies that a workgroup is responsible for a “whole work process” [Wellins 91]. In the People CMM, workgroups that are invested with the authority to determine how they will accomplish business objectives and perform some of their internal workforce practices are described as empowered workgroups.

The term “team” has been used in the literature to describe several types of workgroup structures and attributes, many of which involve some level of empowerment. For instance, Katzenbach and Smith [Katzenbach 93, pg. 45] describe a “team” as “...a small number of people [less than 10] with complementary skills who are committed to a common purpose, performance goals, and approach for which they hold themselves mutually accountable.” Although a team is a workgroup, not all workgroups develop into empowered workgroups. Consequently, the People CMM does not distinguish between the terms “team” and “workgroup”.

Empowered workgroups can constitute a unit, can be a component of a unit, or can consist of individuals who report to different units. In this latter case, individuals may have matrixed reporting relationships that involve their home unit and the empowered workgroup. Such workgroups may overlap several entities on the organization chart.

Empowering workgroups involves preparing workgroup members to act as an independent entity within the constraints of organizational and unit(s) objectives. It involves delegating responsibility and authority for work

results to the empowered workgroup and holding the members accountable as an empowered workgroup for achieving them. It involves training workgroup members in the skills required in empowered workgroup and their associated processes. Empowered workgroups are managed as an entity, rather than as individuals and workforce practices are tailored for use with them. The work environment is adjusted to support empowered performance by workgroups. Empowered workgroup members accept increasing responsibility for the performance of workforce practices such as recruiting, selection, performance management, reward, training, development, and compensation activities that are appropriate to the structure and function of the empowered workgroup. Empowered workgroup performance data are used to identify needs for development. Workgroup performance and contributions to it are considered in making individual compensation decisions, as well as in recognizing and rewarding outstanding performance.

Goals

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| Goal 1 | Empowered workgroups are delegated responsibility and authority over their work processes. |
| Goal 2 | The organization's workforce practices and activities encourage and support the development and performance of empowered workgroups. |
| Goal 3 | Empowered workgroups perform selected workforce practices internally. |
| Goal 4 | Empowered Workgroups practices are institutionalized to ensure they are performed as defined organizational processes. |

Commitment to Perform

- Commitment 1** **The organization establishes and maintains a documented policy for conducting Empowered Workgroups activities.**
- Issues typically addressed in the policy include:
1. Workgroups are empowered to serve the business objectives and stated values of the organization.
 2. Empowerment activities are included in the strategic workforce plan and implemented through orderly planning in units whose work can benefit from empowered workgroups.
 3. The work environment and other organizational attributes are adjusted to support empowered workgroups.
 4. Workforce practices are adjusted to support empowered workgroups.
 5. Empowered workgroups assume increasing responsibility for performing some of their workforce practices within the workgroup.
 6. Empowered Workgroups practices and activities comply with relevant laws, regulations, and organizational policies.
- Commitment 2** **An organizational role(s) is assigned responsibility for coordinating empowerment activities and tailoring workforce practices to support empowered workgroups.**

Ability to Perform

Ability 1

Each empowered workgroup has an individual(s) or organizational entity that is assigned responsibility as its sponsor and to whom it is accountable.

1. The individual(s) or organizational entity that is assigned responsibility for an empowered workgroup assists it by:
 - ☐ clarifying its mission and responsibilities,
 - ☐ providing organizational resources or ensuring those organizational resources are made available to the workgroup,
 - ☐ reviewing its progress and performance,
 - ☐ providing guidance,
 - ☐ facilitating the empowered workgroup, when needed, and
 - ☐ addressing problems it is unable to resolve internally.
2. The individual(s) or organizational entity that is assigned responsibility for an empowered workgroup acts as its liaison to other organizational entities, when appropriate.
3. The individual(s) or organizational entity that is assigned responsibility for an empowered workgroup represents the organization's interests to the workgroup.

Ability 2

Adequate resources are provided for performing Empowered Workgroups activities.

1. Workgroups have been established to optimize the performance of interdependent work.

Refer to the Workgroup Development process area for information regarding the establishment and use of workgroups to organize and accomplish work around competency-based process abilities.

2. Competency-based processes exist that can be tailored to support empowered workgroups.

Competency-based processes that can be tailored include competency-based processes, integrated competency-based processes, and methods and procedures for performing common workgroup functions used by a workgroup, as well as competency-based workforce practices that may be tailored and performed by an empowered workgroup.

Refer to the Competency Analysis, Competency-Based Practices, and Workgroup Development process areas at the Defined level, and the Competency Integration process area at the Predictable level, for a description of the establishment of these processes and practices.

3. Defined workforce practices exist that can be tailored to support their execution by empowered workgroups.
4. Experienced individuals who have expertise are available for facilitating empowerment within workgroups.
5. Experienced individuals who have expertise in tailoring workforce practices for:
 - ☐ use within empowered workgroups, and
 - ☐ supporting empowered workgroups.
6. Resources for supporting Empowered Workgroups activities are made available.
7. Adequate funding is available to empower workgroups and to tailor and deploy the empowered workgroup-based practices that support them.

Ability 3

All affected parties develop the knowledge, skills, and process abilities needed to develop effective relationships with empowered workgroups.

1. Those to whom empowered workgroups report receive the preparation needed to manage empowered workgroups.

Those who manage empowered workgroups develop knowledge, skills and process abilities to enable them to perform their assigned responsibilities and support the empowerment of the workgroups that are responsible for. Examples of topics include the following:

- Assigning responsibility and delegating authority
- Shifting responsibility for some workforce practices into the empowered workgroup
- Evolving the growth of empowerment and self-management in empowered workgroups
- Tailoring self-managed workforce practices within empowered workgroups
- Facilitative and participatory management
- Performing workforce practices at the empowered workgroup level
- Forming, sustaining, and disbanding empowered workgroups
- Diagnosing and handling empowered workgroup problems
- Managing dependencies among empowered workgroups
- Coordinating management decisions in empowered workgroup-based organizations

2. Other individuals or organizational entities that interact with empowered workgroups receive the preparation needed to coordinate their activities with empowered workgroups.

Empowered workgroups interact with many components of the organization whose members are not equally empowered. These affected parties need to be prepared to adjust their methods of coordination where necessary to work effectively with empowered workgroups. They need to understand how empowered workgroups work to identify appropriate mechanisms for coordination and interaction.

Examples of issues to be addressed in working effectively with empowered workgroups may include the following:

- Empowered decision-making
- Delegated authority for work methods
- Integration of competency-based processes within empowered workgroups
- Self-management
- Inter-group communication mechanisms
- Planning and tracking status with empowered workgroups

3. Facilitation is provided to:

- ☐ support managers or others who work with empowered workgroups, and
- ☐ assist empowered workgroups in taking responsibility for their work processes and selected workforce practices.

Ability 4

Individuals responsible for tailoring or administering workforce practices for empowered workgroups develop the knowledge, skills, and process abilities needed to perform their responsibilities.

1. Individuals assigned responsibility for performing workforce practices for empowered workgroups receive the preparation needed for applying these practices in a manner consistent with the development and functioning of empowered workgroups.
2. Individuals assigned responsibility for designing or tailoring workforce practices for application to empowered workgroups receive the preparation needed to perform their responsibilities.
3. Individuals within empowered workgroups who participate in applying workforce practices within the workgroup receive the preparation needed for performing these practices.

Ability 5

The practices and procedures for performing Empowered Workgroups are defined and documented.

1. Practices and procedures are defined and documented at the organizational or unit levels, as appropriate.

2. Guidelines for tailoring the practices and procedures for use in different circumstances are documented and made available, as necessary.
3. The individual(s) assigned responsibility for coordinating Empowered Workgroups activities across the organization ensures that defined practices and procedures are:
 - ☐ maintained under version control,
 - ☐ disseminated through appropriate media,
 - ☐ interpreted appropriately for different situations, and
 - ☐ updated through orderly methods.
4. Experiences, lessons learned, measurement results, and improvement information derived from planning and performing Empowered Workgroups practices are captured to support the future use and improvement of the organization's practices.

Practices Performed

Practice 1

Work responsibilities are designed to provide an empowered workgroup with optimal control over an integrated set of business activities.

An integrated set of business activities to be assigned to an empowered workgroup might consist of most or all of the tasks required to:

- Produce a product or a component of a product
- Provide a service or a component of a service
- Perform a business process
- Perform a process step in the production of a product or service
- Perform an organizational function

1. Business activities are analyzed within and across units to determine how to most efficiently:
 - ☐ optimize the collection of dependencies within a workgroup, and
 - ☐ minimize the sharing of dependencies across workgroups.
2. Business activities are periodically reviewed to determine if they can be more effectively organized to support the functioning of workgroups.
3. Empowered workgroups participate in the design of business activities.

Practice 2**Empowered workgroups are formed with a statement of their mission and authority for accomplishing it.**

The level of empowerment extended to an empowered workgroup is limited by its interdependencies with other workgroups or organizational entities. Thus, an empowered workgroup's independence in deciding commitments, work methods, etc. is bounded by its need to coordinate dependencies and ensure proper integration among workflow, work products, or business services with other organizational entities. The level of empowerment that can be achieved within an organization is limited by the design of business processes to maximize dependencies within empowered workgroups and minimize those shared with other organizational entities.

1. Empowered workgroups are established by those who:
 - ☐ have responsibility for the business activities assigned to the empowered workgroup,
 - ☐ are capable of delegating responsibility and authority to the empowered workgroup, and
 - ☐ have reporting responsibility for the individuals assigned to the empowered workgroup.
2. Empowered workgroups are chartered with a statement of their mission that describes:
 - ☐ workgroup purpose and intended contribution to organizational and business objectives,
 - ☐ strategic and operational context of the workgroup's work,
 - ☐ assigned responsibilities and expected outputs,

- ☐ anticipated dependencies and interfaces with other organizational entities,
 - ☐ extent of the workgroup's autonomy and authority,
 - ☐ accountability and reporting relationships,
 - ☐ initial level of self-management, if appropriate.
3. The statement of an empowered workgroup's mission should be reviewed and updated whenever necessitated by changes in business conditions, work processes, or organizational structure.

Practice 3

The individual(s) or organizational entity to which an empowered workgroup is accountable provides business objectives and negotiates responsibilities and commitments with the empowered workgroup.

1. The individual(s) or entity to which the empowered workgroup is accountable provides:
- ☐ goals and responsibilities to be accomplished by the empowered workgroup,
 - ☐ the strategy for how the empowered workgroup's activities and work products fit in with the activities and work products of other workgroups or units, and
 - ☐ objective criteria by which empowered workgroup performance is to be evaluated.
2. The empowered workgroup:
- ☐ reviews and achieves consensus on the objectives and responsibilities assigned to it,
 - ☐ plans its business activities and commitments,
 - ☐ reviews and achieves consensus on the criteria for evaluating its performance, and
 - ☐ negotiates agreements concerning its performance objectives, responsibilities, and commitments as necessary with the individual(s) or entity to which it reports.
3. The empowered workgroup renegotiates performance objectives, responsibilities, and commitments with the individual(s) or entity to which it reports as necessitated by its performance against plan or changing business conditions.

Practice 4

Empowered workgroups are delegated the responsibility and authority to determine the methods by which they will accomplish their committed work.

1. Empowered workgroups tailor and integrate competency-based processes, and standard methods and procedures for performing common workgroup functions, for performing their business activities.
2. Empowered workgroups assign roles and allocate work among their members.
3. Empowered workgroups define and coordinate interfaces with other organizational entities required to satisfy their commitments and shared dependencies.
4. Empowered workgroups plan their business activities and commitments, and negotiate inconsistencies with the individual(s) to whom they are accountable and other organizational entities, as necessary.

Practice 5

Empowered workgroups use appropriate methods for making decisions on their commitments and methods of operation.

1. Early in the empowered workgroup's formation, members determine how they are to:
 - ☐ allocate authority to roles based on dependencies in the committed work,
 - ☐ empower individuals or small groups within the workgroup to take independent action without review or approval by the full workgroup,
 - ☐ achieve consensus on plans and commitments,
 - ☐ make decisions that arise in the performance of the workgroup's business activities,
 - ☐ negotiate and represent their interests to the individual to whom they are accountable and to other organizational entities.
2. Empowered workgroups periodically review their activities and performance to determine whether changes should be made to their decision-making processes.

Practice 6**The organization's work environment supports the development and performance of empowered workgroups.**

1. Facilities and resources that could enhance empowered workgroup performance are identified.

Examples of work environment resources that may enhance the performance of empowered workgroups include the following:

- Public spaces, such as workgroup rooms and conference rooms
- Offices and spaces close to each other that allow workgroup members to be co-located, when possible
- Groupware or other resources to support the performance of the workgroup
- Enhanced communications capabilities

2. Where possible, the facilities and resources identified are made available to enhance empowered workgroup performance.
3. Within boundaries established by work environment policies, budgets, and regulations, empowered workgroups are given the authority to organize and arrange their work environments to best support their business activities.
4. Activities to improve the organization's work environment involve input and review from empowered workgroups.

Practice 7**The organization's workforce practices are tailored for use with empowered workgroups.**

There are three ways in which workforce practices can be adjusted for use with empowered workgroups. These are the following:

- Practices designed for application to individuals can be redesigned for application jointly to all members of an empowered workgroup
- Practices designed for application to a unit can be redesigned for application to an empowered workgroup
- Guidelines can be developed for further adjusting practices used with empowered workgroups for more effective application in specific situations

1. Individuals responsible for coordinating various workforce practices and activities across the organization are involved in adjusting these practices for use by empowered workgroups.
2. Members of empowered workgroups are involved in developing guidelines for adjusting and applying workforce practices for use with empowered workgroups.
3. Human resources or other appropriate professionals are involved in ensuring that all workforce practices and activities that are adjusted for use with empowered workgroups comply with all applicable laws, regulations, and organizational policies.

Practice 8

Responsibility and authority for performing selected workforce activities is delegated to empowered workgroups.

The level of responsibility and authority to be delegated to empowered workgroups for performing their own workforce activities is a design issue. Organizations generally start by delegating a minimal set of workforce practices to empowered workgroups to allow them to gain experience in performing these activities. As an empowered workgroup becomes experienced in performing some of its own workforce activities, the level of self-management delegated to the workgroup can be increased. The rate at which empowered workgroups may successfully absorb responsibility for self-management may differ among workgroups. The level of delegated self-management may also differ by the maturity and experience of each empowered workgroup. For instance, long-lived empowered workgroups that interact frequently, such as product development teams, are generally delegated greater self-management than short-lived empowered workgroups that interact only occasionally, such as problem resolution teams. Since an individual may participate in several empowered workgroups, the organization must decide the extent to which each workgroup contributes to workforce activities performed for the individual in areas such as performance management, compensation, and career development.

1. Management, in conjunction with human resources, decides how to delegate workforce activities to different empowered workgroups:
 - ☐ internally by empowered workgroup members,
 - ☐ externally by one or more individuals such as project managers, competency managers, or human resources professionals, and
 - ☐ through a combination of activities performed by individuals internal and external to the empowered workgroup.

The level of involvement is typically determined by criteria such as the following:

- the level of privacy that the organization wishes to maintain on personal information
- standard organizational practice
- organizational culture
- laws, regulations, and organizational policies

2. Workforce practices and activities whose performance may be delegated to empowered workgroups include:
 - ☐ recruiting for open positions,

- ☐ developing methods and criteria for selecting new members,
- ☐ orienting new members,
- ☐ conducting their internal performance management activities,
- ☐ determining their learning needs and ensuring that these needs, in addition to any development needed in the organization's workforce competencies, are satisfied,
- ☐ participating in compensation decisions,

Examples of empowered workgroup involvement in compensation activities include the following:

- Using the inputs of empowered workgroup performance management activities in compensation decisions
- Recommending adjustments to compensation
- Mixed responsibility where empowered workgroups have some involvement in compensation decisions
- Reviewing compensation decisions
- Providing feedback on compensation methods and decisions
- Recommending changes to the compensation strategy or the activities defined for the empowered workgroup

- ☐ contributing to strategic workforce planning and the planning of unit workforce activities,
 - ☐ recognizing or rewarding outstanding performance, and
 - ☐ performing other workforce practices and activities, as appropriate.
3. The effectiveness of self-management within each empowered workgroup is evaluated to determine:
- ☐ corrective actions to be taken with regard to the empowered workgroup's performance of one or more of the workforce practices delegated to it,
 - ☐ the extent to which the empowered workgroup is ready to assume responsibility for performing more of its own workforce practices, and
 - ☐ how self-management is working in empowered workgroups across the organization and whether any corrective actions should be taken at the organizational level.
4. Within guidelines established by the organization, the responsibility and authority delegated to empowered workgroups for performing workforce activities is increased over time as empowered workgroups become more experienced and effective in self-management.
- ☐ Responsible individual(s) maintain ongoing discussion with empowered workgroups about their performance of workforce activities.
 - ☐ Members of empowered workgroups are involved in decisions regarding the amount of responsibility they are delegated for performing workforce practices.

Practice 9**Empowered workgroups tailor workforce activities delegated to them and plan for their adoption.**

Empowered workgroups determine how to conduct the workforce activities delegated to them within a context set by how the organization has adjusted its workforce practices for use by empowered workgroups. Decisions about how a specific empowered workgroup should conduct its workforce activities are reviewed by human resources or other appropriate professionals for compliance with relevant laws, regulations, and organizational policies.

1. Empowered workgroup members receive the preparation needed to perform their delegated workforce activities.
2. Empowered workgroups define and agree on how they perform their delegated workforce activities.
3. Empowered workgroups plan the integration of delegated workforce activities into their planned business activities.
4. Facilitation is made available to empowered workgroups as needed to assist in performing their delegated workforce activities.
5. When appropriate, an empowered workgroup's workforce activities are reviewed by human resources or other appropriate professionals to ensure they comply with relevant laws, regulations, and organizational policies.
6. When necessary, corrective action is taken to improve the performance of delegated workforce activities.
7. Records of an empowered workgroup's workforce activities are maintained.

Practice 10**Empowered workgroups perform the workforce activities delegated to them.**

1. Empowered workgroups assign roles as appropriate for participating in the performance of its delegated workforce activities.
2. Empowered workgroups perform workforce activities delegated to them according to their plan and adjustments.
3. Empowered workgroups seek advice from human resources or other appropriate professionals, as necessary, to ensure their actions comply with the organization's policies, procedures and relevant laws and regulations.
4. The performance of workforce activities by empowered teams is reviewed or audited, as appropriate, to ensure compliance with the organization's policies, procedures, and relevant laws and regulations.

Practice 11**Empowered workgroups participate in managing their performance.**

1. Empowered workgroups establish their performance objectives.

An empowered workgroup's performance objectives are typically based on factors such as the following:

- The organization's or unit's business strategies, performance objectives, and performance measures
- Its mission and assigned responsibilities
- The needs of its stakeholders and the deliverables or services that meet these needs
- The individual processes or tasks that must be accomplished
- Expected contributions of each workgroup member
- Its effectiveness in interacting with other workgroups or organizational entities
- Relevant schedule, cost, and quality criteria

2. Stakeholders in the workgroup's performance contribute to establishing its performance objectives and criteria, where appropriate.

Examples of stakeholders in an empowered workgroup's performance may include the following:

- Individual members of the workgroup
- Members of other workgroups or organizational entities affected by an empowered workgroup's performance
- The individual(s) or organizational entity to whom the empowered workgroup reports
- Executive management
- Customers

3. An empowered workgroup's performance objectives are consistent with its unit and organizational performance objectives.

4. Members of empowered workgroups jointly establish their individual performance objectives by:
 - ☐ establishing and agreeing to the performance objectives of each of its members, and
 - ☐ defining their personal performance objectives to be consistent with the performance objectives of their workgroup, unit, and the organization.
5. Empowered workgroups define and use performance measures to evaluate their effectiveness and improve their performance.

Refer to the Quantitative Performance Management process area for practices involved in defining measures at the workgroup level.

6. Measures of the performance of an empowered workgroup are:
 - ☐ integrated into the performance objectives of each individual member, and
 - ☐ periodically reviewed to determine their appropriateness under changing business or organizational conditions and are revised, if necessary.
7. Members of empowered workgroups maintain awareness of their performance as individuals and as a workgroup.

Examples of mechanisms for empowered workgroups to maintain awareness of team performance include the following:

- Progress review meetings
- Performance review meetings
- Workgroup problem-solving sessions
- Sessions with a mentor, coach, or facilitator

8. Workgroup performance is periodically evaluated against established performance objectives for individuals and the workgroup.
9. Empowered workgroups manage the performance of its individual members to achieve workgroup performance objectives.

Refer to Practices 6 through 12 of the Performance Management process area for information regarding performance management practices for individual workgroup members.

10. Members of empowered workgroups openly discuss performance issues and seek solutions to these issues.
11. To the extent these responsibilities have been delegated to them, empowered workgroups:
 - ☐ provide formal feedback on performance for each of its members,
 - ☐ provide input to compensation decisions, and
 - ☐ manage unsatisfactory performance by its members.

Practice 12**Adjustments to the compensation of members of empowered workgroups are based, in part, on issues related to workgroup performance.**

1. The compensation system is reviewed and adjusted, as needed, to:
 - ☐ optimize the relationship of empowered workgroup performance to unit and organizational performance and individual performance to empowered workgroup performance,
 - ☐ ensure that workgroup-related adjustments to compensation are having their intended effect, and
 - ☐ ensure that compensation decisions which incorporate workgroup considerations maintain equity within the compensation system.

Examples of the impact of the compensation system on empowered workgroup development and performance include the following:

- Stimulating the development of empowered workgroups
- Motivating individuals to develop workgroup-based skills
- Motivating cohesion and coordination among members of the workgroup
- Aligning individual and workgroup performance
- Aligning workgroup performance with unit and organizational performance
- Attracting and retaining appropriately-qualified individuals in empowered workgroups

2. Adjustments to compensation for each member of an empowered workgroup are based, in part, on:
- ☐ their individual performance compared to their performance objectives,
 - ☐ their overall contribution to the development, functioning, and performance of their workgroup,

Examples of workgroup-related factors that may influence compensation decisions include the following:

- Current capability in workgroup tasks
- Development of additional capabilities in workgroup tasks
- Successful completion of activities in personal development plans that are related to workgroup performance
- Ability to translate capability in workforce competencies into enhanced workgroup performance
- Contribution in helping or mentoring others to improve their knowledge, skills, and process abilities related to workgroup responsibilities

- ☐ the performance of the empowered workgroup compared to its performance objectives, and
 - ☐ the empowered workgroup's contribution to the achievement of unit and organizational performance objectives.
3. Guidance and assistance for factoring individual contribution to empowered workgroup performance is provided to individuals and workgroups responsible for making compensation decisions.

Examples of practices for factoring empowered workgroup-based incentives into individual compensation include the following:

- Equal adjustments for all empowered workgroup members based on empowered workgroup performance against objectives
- Equal adjustments for all empowered workgroup members based on empowered workgroup contribution to unit or organizational performance
- Equal adjustments for all empowered workgroup members based on improvements in empowered workgroup performance
- Differential adjustments for individual empowered workgroup members based on each their capabilities and individual contributions to empowered workgroup performance
- Differential adjustments for each empowered workgroup member based on their contribution to the ability of other empowered workgroup members to contribute to empowered workgroup performance

4. The basis on which contributions to empowered workgroup performance are factored into compensation decisions is discussed with each individual.

Measurement and Analysis

Measurement 1

Measurements are made and used to determine the status and performance of workforce practices for empowering workgroups.

Examples of measurements include the following:

- Rate at which workgroups can be developed into empowered workgroups
- Amount of time spent in tailoring workforce activities to the organization's empowered workgroup-based practices
- Rate or progress in tailoring the organization's workforce activities for empowered workgroup-building application
- Indicators of the organization's increased efficiency in performing empowered workgroup-based workforce activities

Measurement 2 **Measurements are made and used to determine the effectiveness of workforce practices for empowering workgroups.**

Examples of measurements of the effectiveness of empowered workgroup-based workforce practices include the following:

- Individual ratings of the effectiveness of empowered workgroup-based workforce practices
- Improved empowered workgroup coordination and functioning
- Increased level of motivation and retention resulting from empowered workgroup-based staffing, career planning, compensation, and reward practices
- Improvements in empowered workgroup performance
- Increased impact of empowered workgroup performance on unit and organizational performance

Verifying Implementation

Verification 1 **A responsible individual(s) verifies that the organization's workforce practices for empowering workgroups are conducted according to the organization's documented policies, practices, procedures, and, where appropriate, plans; and addresses noncompliance.**

These reviews verify that:

1. Workforce practices for empowering workgroups comply with the organization's policies and stated values.
2. Workforce practices for empowering workgroups comply with relevant laws and regulations.
3. Workforce practices and activities for empowering workgroups are performed according to the organization's documented practices and procedures.
4. Noncompliance issues are handled appropriately.

Verification 2 **Executive management periodically reviews the organization’s Empowered Workgroups activities, status, and results; and resolves issues.**

These reviews verify:

1. Appropriateness of workforce practices for empowering workgroups at the organizational and unit levels.
2. Progress in performing workforce practices for empowering workgroups.
3. Results from reviews of workforce practices and activities for empowering workgroups.

Refer to Verification 1 for information regarding reviews of workforce practices and activities for empowering workgroups to ensure adherence to the following:

- Relevant laws and regulations
- Organizational policies, practices, and procedures

4. Status of resolution of noncompliance issues.
5. Trends related to workforce activities for empowering workgroups.
6. The organization’s effectiveness in implementing workforce practices for empowering workgroups.

Verification 3 **The definition and use of empowered workgroup performance data are periodically audited for compliance with organizational policies.**

Competency-Based Assets

A process area at Maturity Level 4: Predictable

Purpose **The purpose of Competency-Based Assets is to capture the knowledge, experience, and artifacts developed in performing competency-based processes for use in enhancing capability and performance.**

Description *A competency-based asset captures the knowledge, experience, or artifacts developed in performing competency-based processes within an organization. A competency-based asset is a bundle of information or an artifact that has been prepared in standard format and made available for widespread use. As an organizational asset, it becomes a component of one or more workforce competencies. The concept of a workforce competency is expanded at the Predictable Level to include not just the knowledge, skills, and process abilities of individuals and workgroups, but also the accumulated assets that can be reused by other members of their competency community. Thus, competency-based assets include many of the concepts discussed in areas such as knowledge management, learning organizations, or reusable product components. The representation of competency-based assets for future deployment is determined by standards set by the organization or within a specific workforce competency.*

Competency-Based Assets involves encouraging individuals and workgroups to capture and share the information and artifacts they developed while performing competency-based processes. Selected bundles of information or artifacts are organized into competency-based assets. These competency-based assets are integrated into competency-based processes for use in performing business activities. Information on the use of these assets is also captured. Competency-based assets are incorporated into competency development activities, and mentoring activities are structured to deploy them. Competency-based assets are made available for use through information and communication technology. Workforce practices and activities are adjusted to encourage the development and use of competency-based assets.

Goals

- Goal 1** **The knowledge, experience, and artifacts resulting from performing competency-based processes are developed into competency-based assets.**
- Goal 2** **Competency-based assets are deployed and used.**
- Goal 3** **Workforce practices and activities encourage and support the development and use of competency-based assets.**
- Goal 4** **Competency-Based Assets activities are institutionalized to ensure they are performed as defined organizational processes.**

Commitment to Perform

- Commitment 1** **The organization's stated values encourage knowledge sharing between individuals and workgroups, when appropriate.**

Refer to Commitment 1 of the Communication and Coordination process area for information regarding the establishment and communication of organizational values and the types of the workforce issues that might be covered in the organization's stated values. Also refer to Commitment 1 of the Participatory Culture process area for information regarding extending these core values to address open communication and participation in decision making by individuals and workgroups.

Commitment 2 The organization establishes and maintains a documented policy for developing and using competency-based assets.

Issues typically addressed in the policy include:

1. Competency-Based Assets activities, including capturing and exploiting the competency-based assets of the organization, serve its business objectives and stated values.
2. Knowledge, experience, and artifacts gained from performing competency-based processes are captured and retained for use.
3. Competency-based knowledge, experience, and artifacts are incorporated into competency development and business activities.
4. Workforce practices are adjusted to motivate capturing and exploiting competency-based knowledge, experience, and artifacts.
5. Appropriate professionals are involved, as needed, in ensuring that activities involved in capturing and exploiting the organization's competency-based assets comply with any contracts or similar agreements with other organizations regarding any of these assets.
6. Workforce practices and activities relating to the development and use of competency-based assets comply with relevant laws, regulations, and organizational policies.

Human resources or other appropriate professionals are consulted to ensure that the activities involved in capturing and exploiting the organization's competency-based assets comply with relevant laws, regulations, and organizational policies.

Commitment 3 **An organizational role(s) is assigned responsibility for coordinating across the organization the activities involved in capturing and reusing competency-based assets.**

Examples of individuals who might coordinate various Competency-Based Assets activities include the following:

- Operational managers and executives
- Knowledge officers or managers
- Quality, efficiency, or performance experts
- Human resources or other appropriate professionals
- Training or development groups
- Competency ownership groups
- Information technology specialists
- Measurement or process improvement groups

Ability to Perform

Ability 1 **Within each unit, an individual(s) is assigned responsibility and authority for ensuring that members of the unit participate in capturing and using competency-based assets, as appropriate.**

Examples of responsibilities to be performed within units include the following:

- Ensuring that knowledge, experience, and artifacts are captured from performing competency-based or interdisciplinary processes
- Competency-based assets are used in performing the unit's business activities
- Workforce activities within the unit motivate the capture and exploitation of competency-based assets

Ability 2 **A responsible individual(s) coordinates the activities for capturing and using competency-based assets within each workforce competency.**

Ability 3 **Adequate resources are provided for capturing and using competency-based assets.**

1. The organization's workforce competencies have been defined.

Refer to the Competency Analysis process area for the information regarding defining workforce competencies.
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2. The competency development plans for the organization's workforce competencies are made available.

Refer to Practices 2, 3, 4, and 5 of the Workforce Planning process area for information regarding establishing and maintaining the organization's competency development plans.
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3. Experienced individuals with appropriate expertise are available to advise and assist in capturing, representing, retaining, and exploiting competency-based knowledge, experience, and artifacts.

Examples of individuals with appropriate expertise include the following:
<ul style="list-style-type: none">• Subject matter experts• Knowledge management professionals• Mentors or coaches

4. Adequate resources are provided for capturing and exploiting competency-based assets, including resources such as:
 - ❑ the technology needed for capturing or exploiting competency-based assets, including information technology for storing, processing, or presenting the organization's competency-based assets and communication technology for generating or sharing the organization's competency-based assets;

- ☐ search and presentation technology for using the organization's competency-based assets in competency development and work performance;
 - ☐ tools and methods for incorporating the organization's competency-based assets into its business activities; and
 - ☐ training needed to exploit the organization's competency-based assets.
5. Adequate time is made available for capturing and exploiting competency-based assets, including:
- ☐ the effort of those whose knowledge, experience, or artifacts are being captured, and
 - ☐ the effort of those who facilitate the capture and exploitation of competency-based knowledge, experience, or artifacts.

Ability 4

Those responsible for various tasks involved in developing and deploying the organization's competency-based assets develop the knowledge, skills, and process abilities needed to perform their responsibilities.

Learning opportunities are provided in techniques for capturing and reusing the organization's competency-based assets that include topics such as:

- ☐ capturing competency-based assets,
- ☐ representing and packaging competency-based assets for reuse,
- ☐ disseminating competency-based assets,
- ☐ assisting individuals and workgroups in sharing competency-based assets,
- ☐ storing and retrieving competency-based assets,
- ☐ building repositories of competency-based assets,
- ☐ integrating competency-based assets into competency-based processes, and
- ☐ developing and exploiting the organization's intellectual capital.

Ability 5

Individuals involved in capturing or using competency-based assets develop the knowledge, skills, and process abilities needed to perform their responsibilities.

1. Individuals and workgroups are prepared in methods for capturing knowledge, experience, and artifacts that result from performing competency-based or interdisciplinary processes.
2. Individuals and workgroups are prepared in methods for sharing the knowledge, experience, and artifacts that result from performing competency-based or interdisciplinary processes with others who might benefit from them.
3. Individuals and workgroups are prepared in methods for using competency-based assets in performing their business activities.

Ability 6**The practices and procedures for capturing or using competency-based assets are defined and documented.**

1. Practices and procedures are defined and documented at the organizational or unit levels, as appropriate.
2. Guidelines for tailoring the practices and procedures for use in different circumstances are documented and made available, as necessary.
3. The individual(s) assigned responsibility for coordinating Competency-Based Assets activities across the organization ensures that defined practices and procedures are:
 - ☐ maintained under version control,
 - ☐ disseminated through appropriate media,
 - ☐ interpreted appropriately for different situations, and
 - ☐ updated through orderly methods.
4. Experiences, lessons learned, measurement results, and improvement information derived from planning and performing Competency-Based Assets practices are captured to support the future use and improvement of the organization's practices.

Practices Performed

Practice 1

Individuals and workgroups capture and retain information and artifacts that emerge from performing competency-based processes.

1. Competency-based processes are augmented with tasks for capturing information and artifacts developed while performing business activities.

Refer to Practice 8 of the Competency Development process area for practices that encourage the capture of competency-based experience and information. At the Defined Level, the capture of this experience and information is less formal and may not be included in the definition of competency-based processes. However, at the Predictable Level, the capture of competency-based information and artifacts is formalized and becomes an ordinary part of the competency-based processes.

Examples of tasks that can be augmented for capturing information and artifacts include the following:

- Postmortem reviews and analyses of projects
- Phase-end reviews
- Lessons learned sessions
- Opportunities for improvement sessions
- Process improvement or quality circle meetings
- Debriefings
- Shift or workgroup handoffs
- Progress reporting mechanisms

2. Information that can contribute to the knowledge, skills, or process abilities of workforce competencies is captured and retained.

At the end of tasks, assignments, phases, projects, or other discrete units of work, individuals and workgroups expend effort in capturing information learned through experience that may be useful in performing future business activities. Some of this information is quantitative. Refer to the Quantitative Performance Management process area for practices involving the establishment and use of process measures.

Examples of qualitative information that might be captured include the following:

- Unexpected events or results
- Variation in results under different conditions
- Factors that affect processes or their results
- Improvements in methods or processes
- Means for reducing variation in process or result
- Relationships between parameters such as effort, schedule, cost, and quality
- Opportunities for innovation in product or process
- Rationale for decisions and their outcomes
- Customer habits or preferences

3. Artifacts developed while performing competency-based processes are retained.

Artifacts are retained in repositories appropriate to the type of competency-based processes that produced them. Examples of artifacts that might be retained include the following:

- Design documents
- Templates for designing solutions
- Documentation of products or internal systems
- Plans
- Process descriptions
- Notebooks
- Presentations
- Audit reports, lessons learned, or postmortem reports
- Test results
- Minutes and other records from meetings

Practice 2

Communication vehicles are established to support the sharing of competency-based information and artifacts within and among competency communities.

Not all information and artifacts developed through performing competency-based processes are selected for treatment as a competency-based asset. Nevertheless, some information or artifacts may be valuable to others in a competency community. Individuals and workgroups are encouraged to capture and share information and artifacts informally when they believe others could benefit. In this case, the organization provides communications vehicles, but remains passive with regard to how information and artifacts are represented and shared. As a result, these information and artifacts are a local rather than an organizational asset. When a bundle of information or an artifact experiences widespread use, it becomes an organizational asset. Informal usage patterns may provide valuable guidance in setting strategies and selection standards for developing organizational competency-based assets.

Examples of communication vehicles to support sharing include the following:

- Email
- Electronic bulletin boards
- Lessons learned repositories
- Knowledge management systems
- Intranets
- Video-conferencing
- Periodic meetings or forums
- Mentoring or coaching
- Communication between members of a competency community

Practice 3

A strategy for developing and deploying competency-based assets is created for each affected workforce competency.

1. The organization identifies the workforce competencies where capture, development, and use of competency-based assets are determined to have sufficient business benefit.

Strategies for developing competency-based assets are generally specific to each workforce competency, but may incorporate elements related to programs, product lines, or the entire organization. Creating competency-based assets for some workforce competencies may not be judged to have sufficient business benefit to justify inclusion in the strategy. Thus, the strategy and resulting activities may target selected workforce competencies.

2. Within each affected workforce competency, a strategy for competency-based assets is established and maintained.

Examples of issues to be covered in the strategy for competency-based assets within each affected workforce competency include the following:

- Identification of the business objectives addressed through developing competency-based assets
- How the creation of competency-based assets within this workforce competency serves organizational objectives
- Identification of the mechanisms for acquiring source material for competency-based assets
- Guidelines and criteria for selecting information and artifacts to be incorporated into competency-based assets
- Methods for developing competency-based assets
- Organization-level or workforce competency-level standards to which competency-based assets must comply
- Methods for deploying competency-based assets
- Plans for incorporating competency-based assets into competency development activities
- Approaches for using competency communities for development and deployment of competency-based assets
- How workforce practices are adjusted to motivate contribution to, and use of, competency-based assets

3. Within each workforce competency, guidelines and criteria are established for deciding which bundles of information and artifacts are sufficiently valuable to be developed into competency-based assets.

Competency-based assets are products typically developed for users internal to the organization. Occasionally, external users may have access to competency-based assets. Since these assets are expected to produce value for the organization, they are developed with process standards similar to those used for developing products provided to customers. Quality and other standards may differ from those applied to external products or services since they must be adjusted to be appropriate for internal use.

Examples of guidelines and criteria for selecting competency-based assets to be developed include the following:

- a knowledge management strategy
- enhanced ability to achieve business objectives or competitive advantage
- value for increasing the knowledge, skill, or process abilities of others in the competency community
- ability to improve the performance of individuals or workgroups within the competency community
- ability to reuse assets in future business activities
- ability to reduce effort or increase quality
- value to members of the organization outside the competency community

4. Standards for representing competency-based assets are established at either the workforce competency level or at the organizational level.

Standards for representing competency-based assets include the following:

- Standards for terminology and use
- Requirements for completeness, correctness, and other quality attributes
- Semantic structure and organization
- Representation of content
- Format for storage and presentation
- Archiving and access methods

5. Methods and processes are defined for:
- ☐ capturing competency-based assets,
 - ☐ sharing competency-based assets, and
 - ☐ using competency-based assets.
6. The strategy and standards for selecting and developing competency-based assets are communicated to each competency community.
7. Responsibilities are assigned for acquiring, developing, deploying, and maintaining competency-based assets.

Practice 4

Selected components of competency-based information and artifacts are organized into competency-based assets and made available for use.

1. Information and artifacts produced within a competency community are selected according to appropriate standards and criteria for incorporation into competency-based assets.
2. Responsible individuals or workgroups transform information and artifacts into competency-based assets using appropriate methods and complying with relevant standards.
3. Competency-based assets are made available for use.

Refer to Practice 7 of the Competency Development process area for information regarding communication vehicles within a competency community.

Examples of mechanisms for deploying competency-based assets for use include the following:

- Intranets and other electronic media
- Asset repositories containing text, graphics, video, audio, or other forms of information
- Remote communication access methods
- Best practices networks
- Competency development materials
- Integration into competency-based processes
- Integration into product development or service delivery technology

4. Version control is established for competency-based assets.

Examples of issues to be addressed in establishing version control include the following:

- Identification of assets to be placed under version control
- Methods for logging problems or defects in the assets
- Change control procedures
- Mechanisms for releasing assets
- Mechanisms for tracking or auditing the status of an asset
- Mechanisms for maintaining multiple versions of an asset for different uses

5. When competency-based information and artifacts are developed into competency-based assets, actions are taken to ensure they are consistent with workforce competency descriptions.

Practice 5**Competency-based assets are updated to reflect periodic revisions in the knowledge, skills, and process abilities constituting workforce competencies.**

1. Actions are taken to ensure competency-based assets are consistent with definitions of the knowledge, skills, and process abilities constituting workforce competencies:
 - ☐ Competency-based assets are periodically reviewed to ensure they are consistent with workforce competency descriptions.
 - ☐ When revisions are made to workforce competency descriptions, related competency-based assets are revised as necessary to maintain consistency.
 - ☐ Information and artifacts captured from performing competency-based processes are reviewed to discover if they indicate needed revisions to workforce competency descriptions.

2. When appropriate, competency-based assets are incorporated into continuing revisions of workforce competencies.

Refer to Practices 4 and 5 of the Competency Analysis process area for information regarding updating workforce competency descriptions and competency-based processes. Refer also to Practice 12 of the Competency Integration process area for information regarding updating integrated competency-based processes.

3. Competency-based assets are periodically reviewed for currency and are modified or removed when appropriate.
4. When appropriate, competency communities are involved in the process of maintaining and validating for use competency-based assets relevant to their workforce competencies.

Practice 6

Competency-based assets are integrated into competency-based processes and related technologies, as appropriate.

Examples of incorporating competency-based assets into competency-based processes and related technologies include the following:

- Revisions to processes based on knowledge of more innovative or efficient practices
- Use of new artifacts (e.g., decision aids, templates for planning or design, reusable product components, trouble-shooting guides, customized service guides) for performing competency-based processes
- Automatic production or coordination of artifacts in the process flow for development or service delivery
- Immediate access to knowledge or information relevant to the performance of a competency-based or integrated competency-based process

1. Those responsible for developing and deploying competency-based assets evaluate the definition of competency-based processes to identify adjustments that will support incorporating these assets into standard work practices and business activities.

2. Workforce competency descriptions are revised to incorporate competency-based assets. These revisions may include:
 - ☐ revisions of competency-based processes based on knowledge embodied in the asset or required for using the asset, or
 - ☐ descriptions of the knowledge and skills embodied in the assets or required for using the assets.
3. Technologies are adjusted to deploy competency-based assets. These adjustments may include:
 - ☐ electronically accessible repositories of competency-based assets,
 - ☐ search tools for finding relevant competency-based assets,
 - ☐ presentation media for displaying competency-based assets through means appropriate to the their most effective timing and use,
 - ☐ communication technology for deploying competency-based assets remotely, and
 - ☐ security mechanisms to ensure the protection and appropriate use of the organization's competency-based assets.
4. The incorporation of competency-based assets into competency-based processes is communicated to the competency communities affected.

Practice 7**Individuals and workgroups use competency-based assets in performing their business activities.**

1. Individuals and workgroups receive preparation to incorporate competency-based assets into their performance of competency-based processes.
2. Individuals and workgroups plan (or replan) their committed work to incorporate competency-based assets where appropriate.
3. Assistance or mentoring is available to individuals or workgroups using competency-based assets.

Practice 8**Information resulting from the use of competency-based assets is captured and made available.**

1. Information is captured on the use of competency-based assets.

Examples of information on the use of competency-based assets include the following:

- How the asset was used and any tailoring needed to accommodate the use
- New information learned or developed through using the asset
- Extensions or new assets developed through use of the asset
- Effort, cost, schedule, or other resource needs experienced from using the asset
- Knowledge, skills, or process abilities gained through using the asset
- Performance results achieved using the asset
- Problems experienced in using the asset
- Improvements needed to better utilize the asset

2. Information on experiences using competency-based assets is organized and made available for use.

Information on experiences using competency-based assets can be incorporated into repositories, intranets, or other vehicles through which competency-based assets are accessed. Examples of how this information can be used include the following:

- Guidelines for using the asset effectively
- Sources of assistance or mentoring in using the asset
- Accuracy of information contained in the asset
- Evaluations of the appropriateness of an asset in different situations
- Expectations about the benefits or results to be gained from using an asset
- Methods for enhancing or expanding an asset
- Limitations of an asset

3. Information characterizing the use of competency-based assets is used in revising or expanding these assets.

Practice 9 Competency development activities incorporate competency-based assets.

1. Programs of training and development in each of the organization's workforce competencies incorporate competency-based assets in the learning opportunities offered to individuals and workgroups.
2. Some learning activities are explicitly designed to impart the information contained in competency-based assets.
3. Competency-based assets are tailored as necessary to become effective components of the organization's competency development plans and activities.

Practice 10 Mentoring or coaching activities are organized to deploy competency-based assets.

The basis for mentoring using competency-based assets at the Predictable Level is in making use of the process assets created in Practices 4 and 9 to support mentoring or coaching activities. Mentoring or coaching activities are organized to deploy competency-based assets. Thus, mentoring becomes a formal means of transferring a defined content of the knowledge, skills, and process abilities, typically contained in competency-based assets, to individuals and groups throughout the organization as an advanced form of competency development. Mentoring practices are more fully described in the Mentoring process area.

1. Within each workforce competency for which mentoring is appropriate, a mentoring process is defined to a level sufficient to ensure that those being mentored develop the appropriate level of competency.

Refer to the Mentoring process area for components of a mentoring process. At the Defined Level, mentors and those they mentor are allowed to develop these relationships according to what they believed would be most effective. However, at the Predictable Level, the process is made sufficiently formal to ensure that mentors are consistent in the capabilities imparted to those being mentored.

2. Mentors receive preparation for imparting the documented knowledge, skills, and process abilities using a defined mentoring process.

3. Mentoring practices and activities are periodically reviewed to identify needed improvements or opportunities for better exploiting competency-based assets.

Practice 11**Workforce practices and activities encourage and support the development and use of competency-based assets.**

1. Where appropriate, decisions concerning staffing and work assignments are adjusted to identify individuals with the greatest potential for contributing to and using competency-based assets.
2. Performance management practices and activities are adjusted to consider the contribution to, and use of, competency-based assets.
 - ☐ Performance objectives at both the unit and individual levels include contribution to, and use of, competency-based assets.
 - ☐ Ongoing discussions of work performance include feedback on an individual or workgroup's contribution to, or use of, competency-based assets.
 - ☐ Each individual or workgroup's performance is assessed, in part, against contribution to, or use of, competency-based assets.
 - ☐ Individuals and workgroups are recognized or rewarded for outstanding contribution to, or use of, competency-based assets.
3. The work environment is adjusted, as appropriate, to encourage or support the contribution to, or use of, competency-based assets.

Practice 12**Compensation practices and activities are defined and performed to motivate the development and use of competency-based assets.**

1. The compensation system is adjusted, as needed, to motivate the development and use of competency-based assets.
2. Guidance and assistance for factoring the development and use of competency-based assets into compensation decisions is provided to individuals responsible for compensation decisions.
3. The basis on which the development and use of competency-based assets are factored into compensation decisions is discussed with each individual.

4. Individual compensation decisions affected by the development and use of competency-based assets are reviewed to ensure they maintain equity in the compensation system.
5. The compensation system is periodically reviewed and adjusted to improve its influence on the development and use of competency-based assets.

Measurement and Analysis

Measurement 1 **Measurements are made and used to determine the status and performance of activities for contributing to and using competency-based assets.**

Examples of measurements include the following:

- The rate and type of competency-based assets being captured
- Progress in packaging knowledge, experience, and artifacts into forms fit for dissemination and reuse
- The rate at which competency-based assets are disseminated through different sources
- The rate at which different repositories of competency-based assets grow and are accessed
- The rate at which competency-based assets are accessed
- The rate at which competency-based assets are incorporated into competency-based processes

Measurement 2 **Measurements are made and used to determine the effectiveness of competency-based assets on improving competencies and performance.**

Examples of measurements of the effectiveness of competency-based assets include the following:

- Their effect on improving the rate of developing workforce competencies at the individual, workgroup, or organizational levels
- Improved performance results at the individual, workgroup, unit, or organizational levels
- Improved performance capability at the individual, workgroup, unit, or organizational levels
- Increased motivation or retention

Verifying Implementation

Verification 1 **A responsible individual(s) verifies that the organization's activities for developing and using competency-based assets are conducted according to the organization's documented policies, practices, procedures, and, where appropriate, plans; and addresses noncompliance.**

These reviews verify that:

1. The capture and use of competency-based assets comply with the organization's policies and stated values.
2. The capture and use of competency-based assets comply with relevant laws and regulations.
3. Competency-Based Assets activities are performed according to the organization's documented practices and procedures.
4. Noncompliance issues are handled appropriately.

Verification 2 **Executive management periodically reviews the Competency-Based Assets activities, status, and results; and resolves issues.**

These reviews verify:

1. The appropriateness of activities for capturing and using competency-based assets at the organizational and unit levels.
2. Progress in capturing and using competency-based assets.
3. Results from reviews of Competency-Based Assets practices and activities.

Refer to Verification 1 for information regarding reviews of Competency-Based Assets activities to ensure adherence to the following:

- Relevant laws and regulations
- Organizational policies, practices, and procedures

4. Status of resolution of noncompliance issues.
5. Trends related to capturing and using competency-based assets.
6. The organization's effectiveness in capturing and using competency-based assets.

Verification 3 **The definition and use of competency-based assets measures and information are periodically audited for compliance with organizational policies.**

Quantitative Performance Management

A process area at Maturity Level 4: Predictable

Purpose	The purpose of Quantitative Performance Management is to predict and manage the capability of competency-based processes for achieving measurable performance objectives.
Description	<p>At the Predictable Level, the organization strengthens its management of performance, by beginning to manage its most important competency-based processes from analysis of performance data. Quantitative Performance Management practices are consistent with programs such as Six Sigma [Harry 00, Pande 00] that seek to install a discipline of quantitative process analysis into the management of an organization's business activities. Not all business activities need to be managed quantitatively, but those with the strongest influence or control over important business outcomes should be candidates for the practices of this process area.</p> <p>Measurable performance objectives are established for units and are then allocated to individuals and workgroups. Workgroups establish their measurable performance objectives. Individuals and workgroups determine which competency-based processes contribute most to achieving unit objectives and set measurable objectives for the performance of these processes. Committed work is estimated and planned using process performance baselines developed from past performance of the relevant competency-based processes.</p> <p>A quantitative performance management strategy is developed for identifying, measuring, and analyzing the performance of the competency-based processes that most contribute to achieving unit objectives. Performance data are collected and analyzed according to this strategy. The performance of these competency-based processes is managed quantitatively and these processes are brought under quantitative control.</p>

Corrective actions are taken when the performance of competency-based processes deviates significantly from performance objectives. Performance data are captured for future use and are used in performing selected workforce practices and activities.

Goals

- | | |
|---------------|---|
| Goal 1 | Measurable performance objectives are established for competency-based processes that most contribute to achieving performance objectives. |
| Goal 2 | The performance of competency-based processes is managed quantitatively. |
| Goal 3 | Quantitative Performance Management practices are institutionalized to ensure they are performed as defined organizational processes. |

Commitment to Perform

- | | |
|---------------------|--|
| Commitment 1 | The organization establishes and maintains a documented policy for conducting Quantitative Performance Management activities. |
|---------------------|--|

Issues typically addressed in the policy include:

1. The organization is committed to continuous improvement by measuring and managing performance results at the individual, workgroup, and unit levels.
2. The organization's Quantitative Performance Management activities serve the business objectives and stated values of the organization.

3. Measurable goals are established for those aspects of performance at the individual, workgroup, and unit levels that are most closely related to the organization's business objectives.
4. Performance against measurable objectives is analyzed and reported.
5. Responsibilities for Quantitative Performance Management activities are defined and assigned to appropriate roles.
6. Results of Quantitative Performance Management analyses are used in managing performance and adjusting workforce activities.
7. Quantitative Performance Management practices and activities comply with relevant laws, regulations, and organizational policies.

Human resources or other appropriate professionals are consulted to ensure that collection, use, and access to performance data complies with relevant laws, regulations, and organizational policies.

Commitment 2 **An organizational role(s) is assigned responsibility for coordinating Quantitative Performance Management activities across the organization.**

Ability to Perform

Ability 1 **Within each unit, an individual(s) is assigned responsibility and authority for ensuring that Quantitative Performance Management activities are performed.**

Ability 2**Adequate resources are provided for performing Quantitative Performance Management activities.**

1. The organization makes available business objectives that can be decomposed to establish measurable performance objectives at the unit level.

Examples of the business objectives that might be a source for Quantitative Performance Management activities include the following:

- Improving quality as measured or perceived by the customer
- Reducing maintenance or service costs
- Shortening delivery schedules or response times
- Improving productivity, yield, or profits
- Accelerating innovation
- Improving coordination or efficiency among organizational units

2. Measurements of performance are collected and made available for analysis.

The initial measurements required to support this practice were defined in the Performance Management, Workgroup Development, Competency Integration, and Empowered Workgroups process areas. As Quantitative Performance Management activities mature, additional or refined measures may be defined.

3. Process performance baselines for competency-based processes are made available for use in performing quantitative management activities.

Refer to Practice 7 of the Organizational Capability Management process area for information regarding developing process performance baselines for competency-based practices.

4. Experienced individuals with appropriate expertise are available to help individuals, workgroups, and those responsible for unit performance analyze and use quantitative performance results to:
 - ☐ understand and predict performance,
 - ☐ improve performance, and

☐ adjust performance-based practices and activities.

5. Resources for supporting Quantitative Performance Management activities are made available.

Examples of resources to support Quantitative Performance Management activities include the following:

- Plotting and graphing tools
- Statistical analysis packages
- Spreadsheets
- Performance assessment instruments
- Databases and other repositories
- Textual and graphical reporting tools

6. Funding to accomplish Quantitative Performance Management activities is made available.
7. Adequate time is made available for performing Quantitative Performance Management activities.

Ability 3

Individuals who participate in Quantitative Performance Management activities develop the knowledge, skills, and process abilities needed to perform their responsibilities.

1. Those who provide performance data receive orientation on the definitions of performance data and the use of these performance data in analyses.
2. Those who receive quantitative performance management analyses receive orientation in how the results were generated and how to interpret them.
3. All individuals who are responsible for adjusting performance-related workforce practices receive preparation in how to make such adjustments.
4. All individuals or workgroups who use performance data to understand or improve their performance receive orientation in the proper interpretation and use of these data.

Ability 4**The practices and procedures for performing Quantitative Performance Management are defined and documented.**

1. Practices and procedures are defined and documented at the organizational or unit levels, as appropriate.
2. Guidelines for tailoring the practices and procedures for use in different circumstances are documented and made available, as necessary.
3. The individual(s) assigned responsibility for coordinating Quantitative Performance Management activities across the organization ensures that defined practices and procedures are:
 - ☐ maintained under version control,
 - ☐ disseminated through appropriate media,
 - ☐ interpreted appropriately for different situations, and
 - ☐ updated through orderly methods.
4. Experiences, lessons learned, measurement results, and improvement information derived from planning and performing Quantitative Performance Management practices are captured to support the future use and improvement of the organization's practices.

Practices Performed

Practice 1**The quantitative performance objectives required to achieve organizational business objectives are defined.**

1. The organization's business objectives are analyzed to identify the quantitative performance objectives required to achieve them.
2. The organization's quantitative performance objectives are:
 - ☐ decomposed when it is necessary to allocate them to units, workgroups, workforce competencies, or other organizational entities;
 - ☐ revised, when necessitated by business strategy or conditions; and
 - ☐ communicated to units.

3. Feedback is obtained from units on their ability to translate organizational performance objectives into measurable unit performance objectives.
4. Methods for establishing more effective quantitative performance objectives are improved using feedback from units.

Practice 2

Each unit establishes measurable performance objectives whose achievement most contributes to organizational business objectives.

Refer to Practices 1 and 2 of the Performance Management process area for information regarding how units establish, update, and allocate performance objectives. Refer to Ability 2 of this process area for information regarding making business objectives available to units and the workforce to support establishing measurable performance objectives. To support practices and activities in this process area, these measurable performance objectives must be defined at a level of specificity that they can be decomposed into quantifiable results for each unit. At lower levels of maturity, the requirement was only for objectives whose performance could be evaluated objectively.

1. Units define their measurable performance objectives based on business objectives established by the organization.
2. Units identify the business activities most critical to the achievement of their measurable performance objectives and establish methods for measuring the performance and effectiveness of these activities.
3. The unit reaches consensus with individuals and workgroups about methods for measuring the performance and effectiveness of critical business activities allocated to them.

Practice 3

Individuals and workgroups establish measurable performance objectives for competency-based processes that most contribute to their achieving unit performance objectives.

Measurable performance objectives for units were established in the Performance Management process area. Refer to Practices 1 and 2 of the Performance Management process area for information regarding how units establish, update, and allocate performance objectives.

It may not always be possible for a unit to establish measurable performance objectives for its processes, as all individuals or workgroups within the unit may not use common processes. Several competencies, each having their own defined processes, may exist within a single unit. For example, a software development unit may be comprised of software architects, designers, programmers, and testers who work in independent workgroups to perform their own competency-based processes.

This practice focuses on establishing measurable performance objectives for those competency-based processes that contribute most to achieving desired performance. The kinds of processes that measurable objectives may be established for include the following:

- Defined processes, which are those competency-based processes defined in each workforce competency. Refer to Practices 2 and 5 of the Competency Analysis process area for information regarding the identification and definition of defined, competency-based processes.
- The workgroup's operating processes, which include both methods and procedures for performing common workgroup functions and competency-based processes tailored for use by workgroups. Refer to Practices 4 and 7 of the Workgroup Development process area and to Practices 4 and 5 of the Empowered Workgroups process area for information regarding the definition and tailoring of the workgroup's operating processes.
- Integrated competency-based processes, which are those processes that have been integrated from the separate defined processes used by different workforce competencies. Refer to Practice 3 of the Competency Integration process area for information regarding the definition of integrated competency-based processes.

Individuals and workgroups:

1. Determine the business activities that must be completed to achieve the unit's measurable performance objectives.
2. Identify the competency-based processes required to accomplish these business activities.
3. Select from the identified processes those competency-based processes that most contribute to the achievement of the unit's measurable performance objectives.
4. Establish measurable objectives for the performance of these selected competency-based processes to ensure that the unit's measurable objectives are achieved.
5. Evaluate measurable performance objectives against work estimates and plans based on analyses, using the relevant process performance baselines, to determine whether they can be achieved.
6. Take action when competency-based processes are determined not to be capable of achieving their measurable performance objectives by:
 - ☐ adjusting the performance objectives to reflect the current capability of the processes involved,
 - ☐ identifying improvements in the capability of relevant competency-based processes required to achieve measurable performance objectives, and
 - ☐ communicating the capability improvements needed to those responsible for improving the capability of competency-based processes.

Refer to Practice 12 of the Continuous Capability Improvement process area for information regarding identifying opportunities for improving the capability and performance of competency-based processes.

7. Incorporate measurable performance objectives for competency-based processes into individual and workgroup performance objectives, as appropriate.
8. Re-evaluate measurable performance objectives when necessitated by changes in business conditions or process capability results, and revise individual or workgroup performance objectives, as appropriate.

Practice 4**Individuals and workgroups plan their committed work using process performance baselines for competency-based processes.**

A process performance baseline is a documented characterization of the actual results achieved by following a process, which is used as a benchmark for comparing actual process performance against expected process performance. The organization's process performance baselines measure performance for selected competency-based processes within the organization's set of standard processes at various levels of detail, as appropriate. Process performance baselines may be established at various levels of process detail, including the following:

- Individual process elements (e.g., specific process elements within a competency-based process)
- Sequences of connected processes
- Processes for developing individual work products

There may be several process performance baselines to characterize performance for individuals and workgroups within the organization, stratified by conditions under which performance might be expected to differ.

Individuals and workgroups:

1. Identify the competency-based processes required to accomplish their business activities.
2. Identify relevant process performance baselines established for the competency-based processes to be performed in accomplishing their business activities.

Refer to Practice 7 of the Organizational Capability Management process area for information regarding developing process performance baselines for competency-based processes. Individuals or workgroups may have established process performance baselines from their own previous performance that are more accurate or relevant than organizational baselines.

Different baselines may be established for different conditions under which competency-based processes are performed. Examples of conditions that may affect the performance of competency-based processes and justify the creation of alternate baselines include the following:

- The level experience or proficiency of the individuals performing the processes
- Organizational or business conditions
- Specific method(s) used in performing the processes
- The nature of the product or service for which the processes are performed

3. Develop work estimates and plans based on analyses using the relevant process performance baselines.

When individuals perform their business activities as members of a workgroup, capability-based estimating may be performed in two stages. In the first stage, individuals estimate and plan their own work based on personal process performance baselines. In the second stage, these personal estimates and plans are integrated at the workgroup level in estimating and planning workgroup performance.

4. Evaluate the planned performance of competency-based processes to determine if they are capable of achieving measurable individual and workgroup performance objectives.
5. Make recommendations for adjustments in measurable performance objectives when competency-based processes are not capable of achieving them.
6. Establish and negotiate work commitments based on capability-based estimates and plans.

Practice 5

Individuals and workgroups define quantitative methods for managing the competency-based processes that most contribute to achieving their performance objectives.

Competency-based processes are quantitatively managed to ensure they are capable of achieving measurable performance objectives and that their performance makes predicted progress toward planned outcomes. Not all processes need to be quantitatively managed. Primarily those competency-based processes believed to most contribute to or control achieving measurable performance objectives are subjected to quantitative management. The outcomes of quantitative management are predictable results obtained through predictable performance.

1. A quantitative performance management strategy is developed for each competency-based process selected for quantitative management.

Competency-based processes can be quantitatively managed at the individual level, at multiple points of performance within the workgroup, or at the workgroup level. The level at which competency-based processes are quantitatively managed may differ across processes. Individuals or workgroups may have different quantitative performance management strategies, based on having different measurable performance objectives or different contexts for the performance of their competency-based processes. In some cases, processes that are performed across workgroups may be quantitatively managed. Some processes may be managed through performance measures such as effort, duration, or cost; while others may be managed from measured attributes of their products or services such as amount, user satisfaction, defects, or other quality measures. Generally, a specific quantitative performance management strategy is defined for each competency-based process selected for quantitative management.

Examples of issues to be covered in the quantitative performance management strategy include the following:

- Measurable performance objectives that establish the context for quantitative management
- Identification of the competency-based processes to be quantitatively managed
- Measures to be used in the analyses
- Appropriate level of data aggregation (individual, workgroup, etc.) for the measures and analyses defined
- Methods and frequency of data collection
- Methods for data validation, storage, and retrieval
- Data analyses to be performed
- Guidance and limitations for evaluating results
- Reports to be distributed
- Methods and tools to support using results
- Safeguards to ensure the privacy and security of data and results

2. Measures of competency-based processes are defined and agreed to.

Examples of sources for defined measures of competency-based processes include the following:

- Definitions of competency-based processes
- Existing process performance baselines for relevant processes
- Standard business, product, or service measures

3. Procedures for analyzing data on competency-based processes are defined.

Examples of analyses that might be performed include the following:

- Curve-fitting or trend analyses
- Statistical process control
- Regression or multivariate predictive techniques
- Stochastic or time-series techniques
- Classification analyses (e.g. defect or problem types)
- Analyses of leading indicators

4. The quantitative performance management strategy is:
 - ☐ reviewed and agreed to by all individuals or groups affected by it,
 - ☐ reviewed and approved by unit management, and
 - ☐ periodically reviewed to ensure its consistency with performance objectives and revised, as necessary, to improve the value of the analyses performed.

Practice 6

Individuals and workgroups quantitatively manage the performance of the competency-based processes that most contribute to achieving their performance objectives.

1. Quantitative performance management activities are conducted according to the quantitative performance management strategies.
2. The performance of competency-based processes by individuals or workgroups is measured and analyzed for use in such activities as:
 - ☐ tracking progress,
 - ☐ predicting outcomes,
 - ☐ assessing risks,
 - ☐ making decisions, or
 - ☐ identifying needed actions.

Examples of how quantitative analyses might be used include the following:

- Establishing process performance baselines from the performance of individuals and workgroups to determine if they are capable of achieving the measurable performance objectives set for them, and whether they differ from organizational baselines established within the competency
- Using interim performance results to predict future outcomes and determine the likelihood that measurable performance objectives will be achieved
- Analyzing variations in process results to understand and control process performance, and to identify needs for corrective action
- Evaluating trends or comparing predicted to actual results to determine whether current progress or results deviate from those planned or expected
- Analyzing factors that affect performance to improve the validity of process performance baselines, and to establish appropriate baselines for different situations

3. The capabilities of competency-based processes that most contribute to achieving performance objectives are:
- ☐ computed using parameters from organizational process performance baselines, where appropriate,
 - ☐ compared to organizational process performance baselines, and
 - ☐ recomputed for use by individuals and workgroups when their capability levels differ significantly from organizational baselines.

4. The capabilities of competency-based processes that most contribute to achieving performance objectives are brought under quantitative control.

Quantitative control may be established at the individual or workgroup level. Thus, bringing the capability of a competency-based process under control may imply actions to be taken by individuals, by workgroups, by managers, or by some combination of these. Examples of attributes of processes under quantitative control include the following:

- Process performance and variation are under statistical control
- Process performance and results are predictable
- Variations in process performance and results can be predicted when the effects of controlling factors and assignable causes are considered
- Process performance or results can be intentionally altered by making known changes to processes or factors that control them
- Process performance or results fit known patterns in quantitative models

5. Individuals, workgroups, and management base decisions on performance data.
6. Results of data collection and analyses are reviewed to determine if corrective actions need to be taken in the quantitative performance management strategy.

Practice 7

Individuals or workgroups take corrective actions when the performance of their competency-based processes differs from the quantitative results required to achieve their performance objectives.

1. The results of quantitative management activities are evaluated for their implications regarding achievement of measurable individual and workgroup performance objectives.

Examples of conditions under which corrective actions may be indicated include the following:

- Performance trends that differ significantly from performance objectives
- Predictions of outcomes that differ significantly from expectations or objectives
- Large variations in process performance that introduce risk in achieving objectives
- Deviations from acceptable capability levels

2. The performance of competency-based processes is analyzed to identify factors that cause their results to deviate from measurable performance objectives.
3. Individuals or workgroups take corrective actions to align the performance of competency-based processes with measurable performance objectives.

Examples of corrective actions may include the following:

- Removing or adjusting factors that inhibit competency-based processes from performing at their established level of capability
- Eliminating or controlling factors that affect process performance (i.e., controlling assignable causes of process variation)
- Adjusting measurable performance objectives to reflect the capability results observed in performing competency-based processes
- Informing management of the risk incurred by the capability results observed in performing competency-based processes
- Receiving management approval for performance below expected capability levels

4. When the performance of competency-based processes has been aligned with measurable performance objectives, individuals and workgroups:
 - ☐ continue to monitor performance results according to the quantitative performance management strategy,
 - ☐ manage the performance of competency-based processes to ensure they exhibit stable or predictable performance,
 - ☐ manage the effects of assignable causes or other factors that inhibit competency-based processes from maintaining the level of capability they have established in their current use, and
 - ☐ take additional corrective actions, as needed, to maintain the alignment of process performance results with measurable performance objectives.

Practice 8**Quantitative records of individual and workgroup performance are retained.**

1. Individuals and workgroups retain data on their performance of competency-based processes for their future use in estimating, planning, and managing their performance.
2. Performance data that are appropriate for characterizing the capability of competency-based processes are submitted for use in organizational capability analyses.

Refer to the Organizational Capability Management process area for information regarding organizational capability analyses.

3. Information regarding needed improvements in the capability of competency-based processes is communicated to those responsible for continuous improvement activities in each competency community.

Refer to the Continuous Capability Improvement process area for information regarding continuous improvement activities for competency-based processes.

4. Privacy and security are established for quantitative performance management data and information at the individual, workgroup, and organizational levels.

Practice 9

Where appropriate, quantitative performance results are used in performing workforce practices and activities.

The use of quantitative performance management data in performing workforce activities must be governed by policies regarding appropriate uses and levels of confidentiality for performance data at the individual and workgroup levels.

Examples of ways in which quantitative performance management data might be used in performing workforce activities include the following:

- Identifying learning and development needs
- Aiding mentors in providing improvement advice and guidance
- Guiding career development discussions and decisions
- Aiding selection and other staffing decisions
- Supporting ongoing communication about performance of committed work
- Documenting accomplishments against performance objectives
- Guiding performance improvement plans and actions
- Providing a basis for recognition and rewards
- Supporting adjustments and other compensation decisions
- Improving competency development activities
- Improving competency integration activities
- Improving competency-based processes and/or competency-based assets
- Improving the development or empowerment of workgroups
- Incorporating capability levels into workforce planning

Measurement and Analysis

Measurement 1 **Measurements are made and used to determine the status and performance of the organization's Quantitative Performance Management activities.**

Examples of measurements include the following:

- The completeness and timeliness of the data collected
- The accuracy of the data collected
- Frequency with which individuals and workgroups collect and analyze performance data
- Number or extent of changes made in competency-based and integrated competency-based processes, based on performance results
- Number of process performance baselines produced by individuals and workgroups
- Number of process performance baselines submitted for use in organizational capability analyses.

Measurement 2 **Measurements are made and used to determine the effectiveness of Quantitative Performance Management activities.**

Examples of measures to determine the value and effectiveness of Quantitative Performance Management activities at the individual, workgroup, or unit levels include the following:

- Improvements in capability and performance
- Extent to which measurable performance objectives are achieved
- Improved ability to identify and manage factors that affect performance
- Improved accuracy of predicting performance results

Verifying Implementation

Verification 1 **A responsible individual(s) verifies that Quantitative Performance Management activities are conducted according to the organization's documented policies, practices, procedures, and, where appropriate, plans; and addresses noncompliance.**

These reviews verify that:

1. Quantitative Performance Management activities comply with the organization's policies and stated values.
2. Quantitative Performance Management activities comply with relevant laws and regulations.
3. Quantitative Performance Management activities are performed according to the organization's documented practices and procedures.
4. Noncompliance issues are handled appropriately.

Verification 2 **Executive management periodically reviews the Quantitative Performance Management activities, status, and results; and resolves issues.**

These reviews verify:

1. The appropriateness of Quantitative Performance Management activities at the individual, within the workgroup, at the workgroup, and at the unit levels.
2. Progress in performing Quantitative Performance Management activities.
3. Results from reviews of Quantitative Performance Management practices and activities.

Refer to Verification 1 for information regarding reviews of Quantitative Performance Management activities to ensure adherence to the following:

- Relevant laws and regulations
- Organizational policies, practices, and procedures

4. Status of resolution of noncompliance issues.
5. Trends related to Quantitative Performance Management.
6. The organization's effectiveness of Quantitative Performance Management activities in achieving quantitative performance objectives.

Verification 3

The definition and use of performance measures at the individual, workgroup, and unit levels are periodically audited for compliance with the organization's policies.

Organizational Capability Management

A process area at Maturity Level 4: Predictable

Purpose **The purpose of Organizational Capability Management is to quantify and manage the capability of the workforce and of the critical competency-based processes they perform.**

Description The *capability of the workforce* refers to the level of knowledge, skills, and process abilities available to the organization in each critical workforce competency for performing committed work. The organization's capability in a specific workforce competency is assessed from the number of individuals in a competency community and the level of knowledge, skill, and process ability that each of them possesses.

The organization identifies the workforce competencies most critical to its business strategy and objectives. The organization determines its capability and quantitative trends in each of its workforce competencies relative to objectives established in its strategic workforce plan. Data regarding competency development trends are defined and collected, and trends are analyzed. The organization determines the quantitative impact that its competency development and related workforce activities have on capability in each of its workforce competencies. These analyses are focused on changes in behavior and results, the highest 2 levels in Kirkpatrick's framework for evaluating training [Kirkpatrick 98].

Capability baselines typically refer to statistically-based descriptions of the performance or results of a process that has been performed repeatedly. In the People CMM, we use the term *process performance baseline* to refer to these documented characterizations of the actual results achieved by following a process. Capability baselines are typically developed by aggregating results across process performance baselines in order to develop statistical characterizations at the level of a competency community. However, it may be inappropriate to aggregate process

performance baselines when competency-based processes are performed under circumstances that result in different performance characteristics. In such situations, the organization may develop and maintain several capability baselines describing typical results under the differing circumstances where the competency-based process is performed. Thus, a process performance baseline describes the typical result that will occur when a competency-based process is performed under specific conditions. Process performance baselines provide an organization with the ability to predict future performance and results based on past experience and to control progress toward achieving these results while the process is being performed.

Organizational Capability Management also involves establishing the capability required of competency-based processes to achieve the organization's performance objectives. It defines methods for collecting data and establishing capability baselines for its critical workforce competencies, process performance baselines for its critical competency-based processes, and quantitative performance models predicting performance in each of these critical competency-based processes. These capability results are used in planning and quantitatively managing the performance of competency-based processes. Thus, the products of Organizational Capability Management are used as inputs in performing Quantitative Performance Management activities in units and workgroups. The impact of workforce practices on the capability and performance of competency-based processes is quantified and managed and the results of these analyses are used in organizational decisions. The results of these analyses are used in adjusting workforce practices to improve their impact on performance and results.

Goals

Goal 1

Progress in developing the capability of critical workforce competencies is managed quantitatively.

- Goal 2** **The impact of workforce practices and activities on progress in developing the capability of critical workforce competencies is evaluated and managed quantitatively.**
- Goal 3** **The capabilities of competency-based processes in critical workforce competencies are established and managed quantitatively.**
- Goal 4** **The impact of workforce practices and activities on the capabilities of competency-based processes in critical workforce competencies is evaluated and managed quantitatively.**
- Goal 5** **Organizational Capability Management practices are institutionalized to ensure they are performed as defined organizational processes.**

Commitment to Perform

- Commitment 1** **The organization establishes and maintains a documented policy for conducting Organizational Capability Management activities.**
- Issues typically addressed in the policy include:
1. The organization's capability management practices and activities serve the business objectives and stated values of the organization.
 2. The organization identifies the workforce competencies that are critical to its business strategy and objectives.
 3. The organization identifies the competency-based processes within each critical workforce competency that are critical to achieving defined performance objectives and business results.
 4. Measures are defined and collected for characterizing the:
 - ☐ capability of each of the organization's critical workforce competencies, and

- ☐ the performance of critical competency-based processes.
- 5. Progress toward achieving measurable capability objectives for each of the organization's critical workforce competencies is managed quantitatively.
- 6. The capability of competency-based processes is analyzed and used in managing these processes to achieve performance objectives.
- 7. Workforce practices and activities are evaluated for their impact on:
 - ☐ the organization's capability in its critical workforce competencies, and
 - ☐ the capability and performance of competency-based processes.
- 8. Results of quantitative analyses of impact are used in managing and improving workforce practices and activities.
- 9. Responsibilities for the organization's capability management activities are defined and assigned to appropriate roles.
- 10. Organizational Capability Management practices and activities comply with relevant laws, regulations, and organizational policies.

Human resources or other appropriate professionals are consulted to ensure that the collection, use, and access to competency and performance data comply with relevant laws, regulations, and organizational policies.

Commitment 2 **An organizational role(s) is assigned responsibility for coordinating Organizational Capability Management activities across the organization.**

Examples of organizational roles that might be assigned responsibility for coordinating capability management activities include the following:

- Competency center managers
- Competency ownership teams
- Quality, efficiency, or performance experts
- Measurement or process improvement groups
- The human resources function
- Managers responsible for units requiring a unique competency

Ability to Perform

Ability 1

Within each unit, an individual(s) is assigned responsibility and authority for ensuring the unit's involvement in Organizational Capability Management activities, as appropriate.

Examples of responsibilities performed within units include the following:

- Providing competency and performance capability data to an organizational group for storage and analysis
- Obtaining and using organizational capability baselines in planning and other activities within the unit
- Providing data on competency development activities within the unit and performance data relevant to improved capability
- Providing information or data on workforce activities performed within the unit for use in analyzing the impact of workforce practices and activities on performance
- Ensuring appropriate security and use of performance data

Ability 2

A responsible individual(s) coordinates the quantitative capability management activities within each critical workforce competency.

Ability 3

Adequate resources are provided for performing Organizational Capability Management activities.

1. Measures of the performance of competency-based processes are made available for analysis.

The initial measurements required to support this practice were defined in the Performance Management, Competency-Based Practices, Workgroup Development, Empowered Workgroups, and Quantitative Performance Management process areas. As the organization's quantitative capability management activities mature, additional or refined measures may be defined.

2. Experienced individuals who have expertise in analyzing competency-based data are available to assist in quantitative analyses of the organization's workforce competency trends and development activities and in using the results in improvement activities.
3. Experienced individuals with appropriate expertise are available to help individuals, workgroups, and those responsible for unit performance to analyze and use quantitative performance results to:
 - ☐ understand and predict the performance of competency-based processes,
 - ☐ improve their performance, and
 - ☐ adjust practices and activities as needed to enhance the performance of competency-based processes.
4. Resources for supporting the organization's capability management activities are made available.

Examples of resources to support the organization's capability management activities include the following:

- Capability assessment tools, such as tests or work samples
- Plotting and graphing tools
- Statistical analysis packages
- Spreadsheets
- Performance assessment instruments
- Databases and other repositories
- Textual and graphical reporting tools

5. Funding to accomplish the organization's capability management activities is made available.
6. Time and methods for data collection are built into workforce activities.
7. Adequate time is made available for performing the organization's capability management activities.

Ability 4

Those responsible for Organizational Capability Management activities develop the knowledge, skills, and process abilities needed to perform their responsibilities.

1. Those who collect capability data and process performance data receive orientation on the definitions and use of these data in analyses.
2. Those who analyze and report capability data, process performance baselines, and related results receive preparation in statistics, data analysis, presentation methods, and other activities related to performing their responsibilities.

Ability 5

Individuals who participate in Organizational Capability Management activities receive appropriate orientation in the purposes and methods for the organization's quantitative capability management activities.

Individuals and workgroups receive the orientation required to interpret and use capability data and process performance baselines if they have responsibilities for:

- ☐ using this information in performing workforce activities,
- ☐ using this information in evaluating and managing competency development practices and activities,
- ☐ using this information for planning and managing the performance of competency-based processes,
- ☐ adjusting workforce practices based on this information, and
- ☐ using this information to understand or improve the performance of competency-based processes.

Ability 6

The practices and procedures for performing Organizational Capability Management are defined and documented.

1. Practices and procedures are defined and documented at the organizational or unit levels, as appropriate.
2. Guidelines for tailoring the practices and procedures for use in different circumstances are documented and made available, as necessary.

3. The individual(s) assigned responsibility for Organizational Capability Management activities across the organization ensures that defined practices and procedures are:
 - ☐ maintained under version control,
 - ☐ disseminated through appropriate media,
 - ☐ interpreted appropriately for different situations, and
 - ☐ updated through orderly methods.
4. Experiences, lessons learned, measurement results, and improvement information derived from planning and performing Organizational Capability Management practices are captured to support the future use and improvement of the organization's practices.

Practices Performed

Practice 1

The organization identifies the workforce competencies that are critical to its business strategies and objectives.

Critical workforce competencies are those most crucial to sustaining an organization's capability in its core competence [Prahalad 90]. Their growth and development is critical to the viability of strategic business objectives and plans. Consequently, the organization's capability in each of its critical workforce competencies is managed quantitatively to ensure that its competency-based processes can be performed with sufficient capability to achieve the organization's quantitative performance objectives.

1. The organization evaluates its strategic business and workforce plans to identify workforce competencies that are critical to achieving its business strategies and objectives.
2. The organization periodically re-evaluates its business and workforce plans to identify additions or deletions to its list of critical workforce competencies.

Practice 2**The organization quantifies its capability in each of its critical workforce competencies.**

1. Trends to be analyzed for each critical workforce competency are based on capability objectives established in the strategic workforce plan.

Refer to Practice 2 of the Workforce Planning process area for information regarding setting capability objectives for workforce competencies and to Practice 8 of the Competency Analysis process area for information regarding determining the current resource profiles for each of the organization's workforce competencies. These resource profiles present the overall capability in the workforce for accomplishing business activities requiring knowledge, skills, or process abilities in a specific workforce competency.

Examples of measurable objectives for capability in each of the organization's workforce competencies include the following:

- The level of capability available in each critical workforce competency
- The rate at which capability is developed in each critical workforce competency
- The deployment of critical workforce competencies across the organization
- Trends relating competency development and business performance
- The rate at which new workforce competencies can be developed and deployed across the organization

2. For each critical workforce competency, a quantitative capability management strategy is established and maintained.

Examples of issues to be covered in the quantitative capability strategy for each critical workforce competency include the following:

- Capability goals, trends, and issues to be subjected to analysis
- Strategy for performing, validating, and revising analyses
- Definition of measures to be used in the analysis
- Analyses to be performed
- Methods and frequency of data collection, validation, and storage
- Schedule for performing and reporting the analyses
- Guidance and limitations for evaluating results
- Reports to be distributed
- Incorporation of results into other workforce activities, such as Competency Analysis and Workforce Planning
- Safeguards to ensure data privacy and security

The initial measurements required to support this practice were defined in the Competency Analysis, Competency Development, and Competency-Based Practices process areas. As quantitative analyses of organizational competency mature, additional or revised measures can be defined.

3. Quantitative analyses of capability are conducted according to the quantitative capability management strategy for each critical workforce competency.

Quantitative analyses of capability can be performed at the organizational level for all critical workforce competencies, or in a more decentralized fashion at the level of one or more competency communities. The level at which these analyses are performed reflects the organization's strategy (e.g., centralized vs. decentralized) for managing its workforce competencies.

4. The organization develops quantitative models of capability in its critical workforce competencies for use in workforce planning and management.

Quantitative models of capability can range from simple quantitative projections based on historical trends to sophisticated stochastic or multivariate statistical models. The purpose of these models is to predict future capability levels based on historical experience, industry trends, current conditions, and/or future expectations. The organization may begin with industry standard models and over time refine them to reflect the organization's business conditions and unique characteristics. Quantitative models may differ in purpose, sophistication, analytic foundation, parameters, predictability, or use among the various critical workforce competencies.

Examples of quantitative models may include:

- Growth curves for projecting future capability in critical workforce competencies
- Demographic models of labor supply for projecting availability and level of skills of entrants to critical workforce competencies in the future
- Models relating hiring and retention success with various recruiting sources and methods
- Models estimating rates at which individuals can progress through competency development activities and successfully achieve higher levels of capability in workforce competencies
- Predictive models of characteristics most closely associated with capability and success in different workforce competencies
- Models for evaluating tradeoffs in breadth vs. depth of individual experience on career performance at the individual level and on workforce capability at the organizational level
- Models of the effect of increasing capability in various critical workforce competencies on performance at the individual, workgroup, unit, and/or organizational levels
- Models relating the compensation strategy to hiring, retention, and career growth in various workforce competencies

5. Capability results for each critical workforce competency are:

- ☐ reported to responsible individuals,
- ☐ incorporated into workforce planning and other workforce practices as appropriate, and
- ☐ updated on a periodic or event-driven basis consistent with the quantitative capability management strategy.

Practice 3**The organization's capability in each of its critical workforce competencies is managed quantitatively.**

1. Quantitative analyses of capability in each critical workforce competency are used by responsible individuals to:
 - ☐ evaluate progress in achieving capability goals,
 - ☐ predict future capability levels,
 - ☐ identify factors that affect capability levels,
 - ☐ evaluate the effects of workforce practices and activities on capability levels, and
 - ☐ identify needs for corrective action.

Examples of conditions under which needs for corrective action may be identified include the following:

- Trends in a workforce competency differ significantly from the measurable goals established for the competency
- The impact of competency development activities on a workforce competency is below expectations
- Variation in results of competency development activities is too great
- Deviations from the capability level of a workforce competency that the organization believes it must maintain

2. Corrective actions are taken when capability results deviate significantly from capability goals for a critical workforce competency.

Examples of corrective actions may include the following:

- Improving the performance of workforce practices and activities that have been demonstrated as being capable of achieving the targeted capability results
- Tailoring, replacing, or terminating workforce practices or activities that are not achieving intended capability results
- Altering capability objectives for a critical workforce competency or adjusting the workforce activities performed to meet these objectives

Practice 4

Measurable objectives for contributing to capability growth in critical workforce competencies are established for workforce practices and activities.

1. Measurable objectives for contributing to capability growth are established for workforce practices and activities based on such factors as:
 - ☐ the capability development objectives for the critical workforce competency established in the strategic workforce plan,
 - ☐ the nature of how specific workforce practices affect capability in each critical workforce competency,
 - ☐ the capability of the individuals participating in the workforce activities related to the practice, and
 - ☐ how capability will be measured.

Refer to Practice 2 of the Workforce Planning process area for information regarding setting measurable capability objectives for workforce competencies. Examples of these measurable objectives include the following:

- The effectiveness in recruiting candidates in different workforce competencies
- The effectiveness of selection techniques in predicting work performance and development of capability in workforce competencies
- The effectiveness of performance feedback in motivating and guiding capability development
- The effectiveness of different competency development activities, such as training or mentoring, on increasing capability in critical workforce competencies
- The effectiveness of the compensation strategy in attracting and retaining individuals in different workforce competencies
- The effectiveness of the compensation strategy on developing capability in different workforce competencies
- The effectiveness of career development activities in motivating and guiding capability growth
- The effectiveness of formal and informal mechanisms for transferring capability among members of a competency community

2. Measurable objectives for contributing to capability growth are:
 - ☐ developed through the involvement of those responsible for coordinating or managing each affected workforce practice across the organization,
 - ☐ reviewed by responsible individuals with expertise in performing the relevant workforce practices, and
 - ☐ communicated to all affected parties.

Practice 5

The organization quantitatively evaluates the impacts of workforce practices and activities on capability in each of its critical workforce competencies.

The organization should analyze the impact of the workforce activities considered most important for increasing the capability in a critical workforce competency. Examples of effects of workforce practices and activities on the capability of a workforce competency that the organization might evaluate quantitatively include the following:

- Impact of recruiting activities on the mix and level of workforce competencies entering the organization
- Success of selection methods in identifying individuals with capabilities in the organization's workforce competencies
- Impact of performance management activities on identifying needs for development activities in the organization's workforce competencies
- Impact of training and competency-development activities on increasing the level of workforce competencies in the organization
- Impact of training, competency development, and career development activities on the rates at which individuals are progressing through graduated career levels
- Impact of career development and other competency-based practices on motivating and increasing the level and optimal mix of workforce competencies in the organization
- Effect of compensation, performance management, and recognition and reward practices and activities on capability within each critical workforce competency

1. An evaluation strategy is established and maintained for evaluating the impact of workforce practices and activities on capability in critical workforce competencies.

Examples of issues to be covered in the evaluation strategy include the following:

- Measurable objectives for contributing to the capability growth to be analyzed
- Measures to be used in the analyses
- Methods and frequency of data collection
- Methods for data validation, storage, and retrieval
- Data analyses to be performed
- Guidance and limitations for evaluating results
- Reports to be distributed
- Methods and tools to support using results
- Other uses for the data in performing workforce activities
- Safeguards to ensure the privacy and security of data and results

2. Measures of capability improvement are defined in each critical workforce competency for use in developing capability baselines and evaluating the impact of workforce practices and activities.

Examples of capability improvement measures may include the following:

- Knowledge tests or skill demonstrations
- Measures of work performance or on-the-job behavior
- Baselines for the capability of competency-based processes
- Measures of coordination or team performance
- Capability profiles for workforce competencies

3. Analysis methods are defined for evaluating the impact of workforce practices and activities on the capability of critical workforce competencies.

An analysis method must be defined for each workforce practice to be evaluated that provides appropriate sensitivity to the impact of the practice on capability in relevant workforce competencies. Analyses can be conducted at several levels of analysis, based on the capability objectives to be evaluated and the evaluation strategy. Examples of different levels of analysis for evaluating the impact of competency development practices and activities might include the following:

- The improvements associated with a single occurrence of a competency development activity
- The improvements associated with multiple occurrences of the same competency development activity, such as a course
- The improvements associated with a type of competency development activity, such as mentoring
- The improvements associated with a collection of competency development activities, such as a sequence of different courses
- The improvements achieved by different individuals based on completing their personal development plans
- The improvements associated with a particular form of delivery (e.g., classroom vs. intranet)
- The improvement in workforce capability within each workforce competency resulting from the full set of competency development activities

4. Data on the impact of workforce practices and activities are collected from appropriate sources and prepared for analysis.
5. The impacts of workforce practices and activities on capability baselines are evaluated quantitatively.
6. Evaluation results are reported to responsible individuals in accordance with the evaluation strategy.

Examples of individuals or entities that would receive evaluation results include:

- Those responsible for coordinating workforce activities across the organization
- Those responsible for performing and reporting workforce activities
- Those responsible for competency analysis and competency development activities
- Those involved in workforce planning
- Executive management

Practice 6

The impacts of workforce practices and activities on the organization's capability in each of its critical workforce competencies are managed quantitatively.

1. Responsible individuals use quantitative analyses to:
 - ☐ evaluate the impact of workforce practices and activities on the capability baselines of selected workforce competencies,
 - ☐ identify conditions under which these impacts vary,
 - ☐ predict future capability levels based on anticipated future impacts of workforce practices and activities, and
 - ☐ identify needs for corrective action.
2. Results that differ significantly from expectations or capability objectives for each of the organization's critical workforce competencies are analyzed for their causes, and remedial actions are proposed, if appropriate.

Examples of conditions under which needs for corrective action may be identified include the following:

- The impact of workforce activities on a workforce competency differs from expectations
- Variation in results of workforce activities is too great
- Significant deviations from the capability level that the organization believes it must maintain in a workforce competency

3. Proposed actions are reviewed, approved, taken, and their completion is tracked.

Examples of proposed actions include the following:

- Correcting problems in the performance of workforce activities
- Adjusting the capability objectives for the workforce competency
- Redesigning or adjusting workforce practices to improve their impact
- Altering the performance of workforce practices and activities under different conditions to improve their impact
- Collecting additional data or designing other analyses to correct misleading results

4. When appropriate or beneficial to capability results, the performance of workforce practices is brought under quantitative control.

Examples of workforce practices placed under quantitative control for a critical workforce competency may include the following:

- Predictable levels of qualified applications from recruiting activities or targeted sources
- Statistically valid predictors of capability or future performance used in selection and career guidance activities
- Predictable capability levels within and across organizational units as a result of assignment and career development strategies
- Predictable shifts in capability among workforce competencies based on motivating development of new competencies through compensation and reward practices

5. Evaluation results for the impact of workforce practices and activities on competency baselines are used in performing other workforce activities.

Evaluation results might be used in strategic workforce planning to evaluate or predict such factors as:

- The rate and effectiveness with which the organization can increase capability in various critical workforce competencies
- The rate at which capability in new workforce competencies can be developed
- The probability of achieving strategic capability goals in different workforce competencies
- The effectiveness with which increases in capability can lead to improved business performance
- The return-on-investment for expenditures of time or financial resources on various workforce practices and activities

Practice 7

Process performance baselines are developed and maintained for critical competency-based processes.

Critical competency-based processes are those competency-based processes within each critical workforce competency that are most crucial to achieving defined performance objectives and business results. Consequently, the organization quantitatively manages the organization's performance in these workforce competencies, as well as the impact of the organization's workforce practices and activities, to ensure that these critical competency-based processes can be performed with sufficient capability to achieve the organization's quantitative performance objectives and intended business results.

Examples of parameters to be established in developing process performance baselines include the following:

- Expected performance as measured by mean, median, mode, or other measures of central tendency
- Performance variability as measured by standard deviation, confidence limits, range, or other measures of variation
- How performance parameters vary under different conditions
- Performance trends over time

1. Measures are defined for competency-based processes.

The initial measurements required to support this practice were defined in the Performance Management, Competency-Based Practices, Workgroup Development, Competency Integration, Empowered Workgroups, and Quantitative Performance Management process areas. As quantitative analyses of performance capability mature, additional or revised measures are defined.

Example sources for defined measures of competency-based processes include the following:

- Definitions of competency-based processes
- Existing process performance baselines for relevant processes
- Standard business, product, or service measures

2. An analysis strategy is established and maintained for computing and analyzing process performance baselines for each critical competency-based process selected for analysis.

Examples of issues to be covered in the strategy for the analysis of the process performance baseline for each critical competency-based process selected for analysis include the following:

- Measures to be used in the analysis
- Frequency and methods of data collection
- Methods for data validation, storage, and retrieval
- Data analyses to be performed and reported
- Guidance and limitations for evaluating results
- Mechanisms for reporting results
- Methods and tools to support using results
- Safeguards to ensure data privacy and security

Examples of analyses that might be performed include the following:

- Curve-fitting or trend analyses
- Statistical process control techniques
- Regression or multivariate predictive techniques
- Stochastic or time-series techniques
- Classification analyses (e.g., defect or problem types)
- Analyses of leading indicators

3. Quantitative analyses of capability of each critical competency-based process are conducted according to the analysis strategy to determine:
 - ☐ the current capability of each critical competency-based process,
 - ☐ how the capability of each critical competency-based process relates to unit and organizational performance,
 - ☐ factors that affect the capability of each critical competency-based process, and
 - ☐ capability levels of a competency-based process under different conditions of factors that affect it, if relevant.
4. Process performance baselines for critical competency-based processes are reported to appropriate individuals and incorporated into:
 - ☐ planning and tracking,
 - ☐ predicting performance,
 - ☐ understanding the factors that affect the performance of competency-based processes,
 - ☐ identifying opportunities for improving the performance of competency-based processes, and
 - ☐ evaluating the capability of competency-based processes compared to the capability required to achieve the organization's performance objectives.
5. Process performance baselines are incorporated into the unit's Quantitative Performance Management activities.
6. Process performance baselines are continually updated, adjusted, and recomputed based on new performance data.

Practice 8

The capability of critical competency-based processes is managed quantitatively.

Refer to the Quantitative Performance Management process area for information regarding the quantitative management of competency-based processes by individuals, workgroups, and units.

1. The results of performing competency-based processes are compared to process performance baselines for critical competency-based processes within each critical workforce competency.
2. Process performance baselines are used by responsible individuals to:
 - ☐ monitor and predict the performance of business activities,
 - ☐ identify conditions under which the capability of a competency-based process varies,
 - ☐ identify how the capability of the workforce affects the capability of competency-based processes,
 - ☐ identify needs for improvement of competency-based processes,
 - ☐ identify factors that affect business performance,
 - ☐ evaluate the effects of workforce practices and activities on the capability of competency-based processes, and
 - ☐ identify needs for corrective action.

3. Corrective action is taken when the results of performing competency-based processes deviate significantly their process performance baselines.

Examples of corrective actions include the following:

- Solving problems or removing barriers that inhibit a competency-based process from being performed at its potential capability
- Improving the capability of individuals or workgroups that perform the competency-based process
- Tailoring, replacing, or terminating workforce practices that inhibit a competency-based process from being performed at its potential capability
- Adjusting the performance objective to match the capability of the competency-based process
- Reorganizing business activities to reduce the impact of variations in the capability of the competency-based process on the achievement of performance objectives

Refer to Practice 12 of the Continuous Capability Improvement process area for information regarding improvement actions to take when process performance baselines deviate significantly from the capability objectives established for each critical competency-based process.

Practice 9

The organization uses its capability data and process performance baselines in developing quantitative models of performance.

Quantitative models of performance can range from simple descriptive statistics concerning capability to sophisticated stochastic or multivariate predictive models. Such models may be used to predict individual, workgroup, unit, or organizational performance from the current capability of competency-based processes and the conditions that affect them. An organization may begin with standard models from related industries and over time refine their algorithms or parameters with internal data and experience. Quantitative models may differ in purpose, sophistication, analytic foundation, parameters, predictability, and use among the various competency-based processes.

Examples of quantitative models include the following:

- Growth curves for projecting the effect of learning and other factors on future capability and performance
- Predictive models of characteristics most likely to affect capability and performance
- Models of the effect of variations in workforce practices and activities on the capability and performance of competency-based processes
- Models for evaluating decisions involving performance tradeoffs
- Models assessing the effect of competency at the individual and workgroup levels on the performance of competency-based processes
- Models for assessing the effect of capability and performance of competency-based processes at the individual and workgroup levels on unit and organizational performance

1. Data are analyzed to develop quantitative models of capability and performance such as:
 - ☐ the effect of learning and competency development on the capability of competency-based processes,
 - ☐ differences in the capability of competency-based processes across individuals at different skill levels, workgroups, units, or under varying conditions,
 - ☐ the effect of aggregating capability results across individuals at different skill levels, workgroups, units, or the organization,
 - ☐ how the capabilities of competency-based processes interact to affect the performance of business activities,
 - ☐ the impact of overall performance among alternate ways of organizing business activities or competency-based processes, and
 - ☐ the effects of workforce practices on the capability of competency-based processes.
2. Quantitative models of the capability of competency-based processes are used in:
 - ☐ planning and tracking committed work,
 - ☐ predicting performance and results at the individual, workgroup, unit, and organizational levels, and
 - ☐ strategic business and workforce planning.

Practice 10

The impact of workforce practices and activities on the capability and performance of competency-based processes is evaluated and managed quantitatively.

Examples of the effects of workforce practices and activities on the capability of competency-based processes that the organization might evaluate quantitatively include the following:

- Improved capability and performance of competency-based processes
- Reduced variation in the capability and performance of competency-based processes
- Impact that workforce practices and activities have when adjusted to achieve their most effective application in different areas of competency-based processes or under different organizational conditions
- Reduced variation in the application or performance of workforce activities
- Increased predictability in the capability and performance of competency-based processes

1. Methods and associated measures are defined for evaluating the impact of workforce practices and activities on the capability and performance of competency-based processes.

Examples of capability measures that may be affected by workforce practices and activities include the following:

- Improvements in mean
- Reduction in performance variation
- Rate of change in capability parameters
- Reduced need for different process performance baselines reflecting differences in performing competency-based processes by different levels of capability in a competency community
- Improved predictability
- Improved performance in data aggregated to higher organizational levels
- Improved business performance or results

2. Data on the impact of workforce practices and activities are collected from appropriate sources and prepared for analysis.
3. The impact of workforce practices on capability baselines and process performance baselines is evaluated.

Analyses may be conducted either at the level of workforce practices or at the level of competency-based processes. For example, analyses may be conducted for the effects of one or more workforce practices across a range of competency-based processes. This approach would be appropriate to determine whether the effects of one or more workforce practices differ across various competency-based processes. For instance, this approach would be helpful in identifying how a bonus program is motivating improved performance in some competency communities but not others.

Alternatively, analyses could be conducted within each competency-based process to determine how the organization's collection of workforce practices affects these processes. For instance, this approach would be helpful in identifying which workforce practices do not appear to improve performance in a specific workforce competency.

4. Quantitative analyses of the impact of workforce practices and activities are used by responsible individuals to evaluate:
 - ☐ their impact on the capability and performance of various competency-based processes,
 - ☐ conditions under which their impact varies, and
 - ☐ needs for corrective action.
5. Corrective actions are taken when quantitative evaluations indicate that the actual impact of workforce practices and activities deviates significantly from expectations. These actions may include:
 - ☐ correcting problems in the performance of workforce activities,
 - ☐ adjusting expectations regarding the impact of workforce practices and activities on the capability and performance of competency-based processes,
 - ☐ redesigning or adjusting workforce practices to improve their impact, and
 - ☐ altering the performance of workforce practices and activities under different conditions to improve their impact.

Practice 11

Evaluations of the impact of workforce practices and activities on the capability and performance of competency-based processes are used in performing other business and workforce activities, as appropriate.

1. Evaluation results are used in strategic business and workforce planning to evaluate or predict such factors as:
 - ☐ the rate at which the capability of competency-based processes can be improved,
 - ☐ the probability of achieving strategic capability levels for competency-based processes and quantitative performance objectives,
 - ☐ the effectiveness with which increases in the capability of competency-based processes can lead to improved business performance, or
 - ☐ the return-on-investment for expenditures of time or financial resources on improving the capability of competency-based processes.
2. Evaluation results are used to guide such actions as:
 - ☐ designing more effective workforce practices for motivating, improving, and sustaining performance,
 - ☐ redesigning, replacing, or eliminating ineffective workforce practices, or
 - ☐ setting or allocating more realistic or effective quantitative performance objectives.

Refer to Practice 6 of the Continuous Workforce Innovation process area for information regarding setting improvement objectives for the organization's workforce practices and activities, based on a quantitative understanding of the process performance of these workforce activities.

Measurement and Analysis

Measurement 1 **Measurements are made and used to determine the status and performance of Organizational Capability Management activities.**

Examples of measurements include the following:

- The number of workforce competencies or competency-based processes for which capability analyses are performed
- The completeness, accuracy, and timeliness of the data collected
- Frequency with which data is collected and analyzed on the capability of critical workforce competencies
- Length of time between data collection and the presentation of analysis results
- Frequency with which capability baselines are updated
- Number and extent of corrective actions taken
- Number or extent of changes made in workforce activities, based on analysis results

Measurement 2 Measurements are made and used to determine the effectiveness of Organizational Capability Management activities.

Examples of measures to determine the effectiveness of the organization's capability management activities include the following:

- Predictability of the organization's capability in its critical workforce competencies
- Improvements in the capability achieved through competency development activities
- Increases in the effectiveness with which competency development activities increase the organization's capability in each of its workforce competencies
- Increases in the speed with which the organization or its units can increase the level of workforce competencies
- Increases in the speed with which the organization or its units can deploy a new workforce competency
- Increases in the organization's ability to achieve quantitative objectives in the growth of its workforce competencies over time
- Predictable relationships between business performance trends and improvements in the organization's capability in critical workforce competencies
- Improvements in the capability and performance of competency-based processes
- Improvements in the prediction or achievement of quantitative performance and business objectives
- Improved correlation between workforce practices and performance results
- Improved ability to identify and manage factors that affect performance
- Increases in the organization's ability to identify areas of competency development activities needing corrective action
- Increases in the organization's ability to identify areas of workforce activities needing corrective action

Verifying Implementation

Verification 1 **A responsible individual(s) verifies that Organizational Capability Management activities are conducted according to the organization’s documented policies, practices, procedures, and, where appropriate, plans; and addresses noncompliance.**

These reviews verify that:

1. Organizational Capability Management activities comply with the organization’s policies and stated values.
2. Organizational Capability Management activities comply with relevant laws and regulations.
3. Organizational Capability Management activities are performed according to the organization’s documented practices and procedures.
4. Noncompliance issues are handled appropriately.

Verification 2 **Executive management periodically reviews the Organizational Capability Management activities, status, and results; and resolves issues.**

These reviews verify:

1. The appropriateness of Organizational Capability Management practices and activities.
2. Progress in improving performance-related workforce practices and activities.
3. Progress in achieving capability objectives for each critical workforce competency.

4. Results from reviews of Organizational Capability Management practices and activities.

Refer to Verification 1 for information regarding reviews of Organizational Capability Management activities to ensure adherence to the following:

- Relevant laws and regulations
- Organizational policies, practices, and procedures

5. Status of resolution of noncompliance issues.
6. Trends related to Organizational Capability Management activities.
7. Trends related to capability baselines.
8. Effectiveness of Organizational Capability Management activities in achieving quantitative management of:
- ☐ the capability of critical workforce competencies,
 - ☐ workforce practices and activities in developing the capability of critical workforce competencies, and
 - ☐ the capabilities of competency-based processes in critical workforce competencies.

Verification 3

The definition and use of measures at the individual, workgroup, and unit levels are periodically audited for compliance with organizational policies.

Mentoring

A process area at Maturity Level 4: Predictable

Purpose	The purpose of Mentoring is to transfer the lessons of greater experience in a workforce competency to improve the capability of other individuals or workgroups.
Description	<p>The organization develops objectives for its mentoring activities. Appropriate types of mentoring relationships are designed for accomplishing different mentoring objectives. Criteria are developed for selecting mentors and those chosen are trained for their assignments. Individuals or workgroups being mentored are provided orientation on how they can best take advantage of a mentoring relationship. Criteria are developed for assigning mentors to individuals or workgroups. The mentor and the individual or workgroup being mentored establish agreements on how their relationship will be conducted. Mentors meet periodically and occasionally evaluate whether they are achieving their objectives. Advice is available to improve the effectiveness of the mentoring relationship. Mentoring activities are evaluated against their objectives to identify needed improvements.</p> <p>At the Defined Level, mentoring and coaching is informal, and the knowledge and skills imparted by the mentor are defined more by their experience and judgement than by a documented combination of knowledge, skills, and process abilities to be imparted. The purposes for mentoring were to support competency development, but the specific content to be imparted was not defined. At the Predictable Level, mentoring and coaching activities are organized around, and guided by, a defined content of the knowledge, skills, and process abilities to be imparted. This content is defined to a level sufficient for guiding mentors and coaches to achieve common and consistent competency development results with individuals or workgroups. At Maturity Level 4, mentoring or coaching activities are organized to make use of and to deploy competency-based assets. Thus, mentoring becomes a formal means of transferring a defined content of the knowledge, skills, and process abilities, typically contained in competency-based assets, to individuals</p>

and groups throughout the organization as an advanced form of competency development.

Goals

- | | |
|---------------|--|
| Goal 1 | Mentoring programs are established and maintained to accomplish defined objectives. |
| Goal 2 | Mentors provide guidance and support to individuals or workgroups. |
| Goal 3 | Mentoring practices are institutionalized to ensure they are performed as defined organizational processes. |

Commitment to Perform

- | | |
|---------------------|--|
| Commitment 1 | The organization establishes and maintains a documented policy for conducting Mentoring activities. |
|---------------------|--|

Issues typically addressed in the policy include:

1. Mentoring activities serve the business objectives and stated values of the organization.
2. Mentoring activities are encouraged but not imposed on individuals.
3. Mentoring activities are included in the strategic workforce plans of the organization.
4. Mentoring activities are instituted, where appropriate, to provide support to individuals or workgroups.

5. Documented procedures are developed and used to guide mentoring activities. These procedures typically specify:
 - ☐ requirements for the selection, training, and assignment of mentors;
 - ☐ conditions under which mentoring relationships may be established, changed, or terminated; and
 - ☐ requirements for periodic evaluation of mentoring activities to ensure their effectiveness and to identify improvements.
6. Mentoring practices and activities comply with relevant laws, regulations, and organizational policies.

Commitment 2 An organizational role(s) is assigned responsibility for coordinating Mentoring activities across the organization.

The role(s) coordinates and helps to:

1. advise on how to organize and conduct mentoring activities,
2. communicate general information about mentoring activities,
3. conduct training or orientation sessions for mentors and individuals or workgroups,
4. advise and counsel mentors and individuals or workgroups during their mentoring relationships, and
5. provide feedback on the progress of mentoring activities to executive management.

Ability to Perform

- Ability 1** **Within each unit, an individual(s) is assigned responsibility and authority for ensuring that members of the unit participate in Mentoring activities, as appropriate.**
- Ability 2** **Adequate resources are provided for performing Mentoring activities.**
1. Experienced individuals are made available to act as mentors.
 2. Resources to support mentoring activities are made available.

Examples of resources needed to support the mentoring program include the following:

 - Training for mentors
 - Orientation for individuals or workgroups to be mentored
 - Availability of an advisor for mentors, individuals, or workgroups
 - Support for evaluation of the mentoring program
 3. Time is made available for mentors and individuals or workgroups to engage in mentoring activities.

Ability 3

Individuals selected to act as mentors develop the knowledge, skills, and process abilities needed in relevant mentoring objectives, techniques, and skills to perform their responsibilities.

1. Mentors receive preparation in techniques and skills to accomplish their mentoring objectives.

Examples of techniques and skills in which mentors are trained include the following:

- How to accomplish mentoring program objectives
- How to conduct a mentoring relationship
- Interviewing and active listening
- Providing guidance and advice
- Providing a role model
- Problem solving
- Performance improvement methods
- Principles of knowledge and skill development
- Career opportunities and development methods
- Advising workgroups
- Team building
- Methods for integration with the organizational culture
- Roles to be fulfilled
- How to evaluate mentoring success

2. For mentoring activities focused on competency development, mentors receive preparation for imparting documented knowledge, skills and process abilities using defined mentoring processes.
3. Guidance is made available to mentors and those they mentor on how to improve their mentoring relationship.

Examples of guidance provided on mentoring relationships include the following:

- How to initiate the relationship
- When and how frequently to have meetings
- Potential topics to be discussed
- How to determine the mentoring needs of those being mentored
- Methods for pursuing mentoring objectives
- How to track progress in the mentoring relationship
- How to handle job or career problems
- How to overcome problems in the mentoring relationship

4. An advisor is available to mentors or coaches to discuss how to make mentoring relationships more effective.

Ability 4

Affected individuals receive appropriate orientation in Mentoring practices.

1. Individuals or workgroups to be mentored receive orientation in the mentoring relationship.

Those to be mentored can include the following:

- Individuals
- Groups of individuals
- Workgroups

Examples of topics covered in orientation regarding mentoring activities include the following:

- Objectives of the mentoring relationship
- Attributes of an effective mentoring relationship
- Problem-solving skills
- Expectations for mentoring relationships
- Roles to be fulfilled in mentoring
- How to handle problems or inefficiencies in the mentoring relationship

2. When appropriate, orientation is provided to other individuals affected by mentoring activities.

Orientation to the mentoring program is typically focused on the individual or workgroup being mentored. Other orientation activities may include the following:

- A combined session for mentors and individuals or workgroups being mentored
- An orientation session for managers of those being mentored to make them familiar with the mentoring process and encourage their co-operation with the mentoring program

Ability 5**The practices and procedures for performing Mentoring are defined and documented.**

1. Practices and procedures are defined and documented at the organizational or unit levels, as appropriate.
2. Guidelines for tailoring the practices and procedures for use in different circumstances are documented and made available, as necessary.
3. The individual(s) assigned responsibility for coordinating Mentoring activities across the organization ensures that defined practices and procedures are:
 - ☐ maintained under version control,
 - ☐ disseminated through appropriate media,
 - ☐ interpreted appropriately for different situations, and
 - ☐ updated through orderly methods.
4. Experiences, lessons learned, measurement results, and improvement information derived from planning and performing Mentoring practices are captured to support the future use and improvement of the organization's practices.

Practices Performed

Practice 1

Opportunities for using the experience of the workforce to improve performance or achieve other organizational objectives are identified.

1. Potential opportunities for mentoring activities are identified.

Examples of sources through which potential opportunities for mentoring might be identified include the following:

- Periodic review by competency ownership teams of opportunities to use mentoring in competency development activities
- Periodic review by responsible individuals of mechanisms for more rapidly transferring knowledge across the organization
- Recommendations for mentoring or requests for mentors from the workforce
- Identified needs for addressing knowledge shortfalls in segments of the workforce
- Periodic organizational assessment of opportunities by a knowledgeable person
- Support mechanism for a new program, technology, or change in some segments of the organization

2. Opportunities to benefit from mentoring are evaluated and prioritized.

Mentoring programs can be evaluated at the organizational or unit level, or within ownership teams for workforce competencies. The evaluation and prioritization would ordinarily be performed by the entity with the authority and budget to initiate a specific type of mentoring program.

3. Mentoring programs are initiated based on relevant criteria, such as budget or availability of qualified mentors.

Practice 2**The objectives and structure of each mentoring program are defined.**

1. Each mentoring program addresses specific competencies, positions, individuals, or workgroups within the organization that can be involved in its mentoring activities.
2. Each mentoring program establishes a set of objectives that its mentoring activities are to accomplish.

Examples of objectives for mentoring activities include providing:

- Orientation and adjustment to the organization
- Support for the acquisition of knowledge, skills, and process abilities
- Support for the development of workforce competencies
- Preparation of specific management or executive skills
- Support to individuals or workgroups
- Support for sharing the knowledge, experience, and artifacts that result from performing competency-based processes with others who might benefit from them
- One-on-one personal attention
- Support for attaining improved workgroup effectiveness
- Workgroup development
- Performance improvement guidance and support
- Career advice and development
- Counseling and advice concerning problems

3. Each mentoring program defines a mentoring process to a level of detail sufficient to ensure that those who receive mentoring develop the appropriate level of competency.

At the Defined Level, mentors and those they mentor are allowed to develop their relationships according to what they believe would be most effective. However, at the Predictable Level, the process is made sufficiently formal to ensure that mentors are consistent in the capabilities imparted to those being mentored.

- ☐ Procedures for mentoring activities are tailored to each set of objectives.

Different types of mentoring relationships may be defined for different sets of objectives. For instance, mentoring activities may differ by position or tenure in the organization such as those designed for new employees versus those designed for new executives.

Examples of elements that could be defined for each type of mentoring relationship include the following:

- The roles and responsibilities of the mentor and the individual or workgroup
- How mentors are selected and trained
- How individuals or workgroups receive orientation on mentoring
- How mentoring relationships are established
- How objectives of the relationship are accomplished
- How the mentoring relationship is monitored for effectiveness
- How the mentoring relationship is evaluated
- The expected duration of the mentoring relationship

- ☐ Roles are defined for mentors to fulfill.

Examples of roles that mentors might fulfill include the following:

- Role model
- Personal or workgroup advisor
- Career counselor or sponsor
- Knowledge and skill developer
- Performance advisor
- Problem solver
- Expert

4. The knowledge, skills, and process abilities that are imparted through mentoring are:

- ☐ documented as competency-based assets,

Refer to Practice 10 of the Competency-Based Assets process area for information regarding the use of mentoring or coaching activities to deploy competency-based assets.

- ☐ drawn from or based on the content of documented workforce competency descriptions,
- ☐ organized for use according to levels of capability represented in graduated career opportunities,
- ☐ complete enough to ensure that those being mentored have the competency required to perform at the intended level,
- ☐ described at a level of detail sufficient to create a common understanding among mentors or coaches of the specific knowledge, skills, and process abilities to be imparted at different points in the mentoring relationship,
- ☐ sufficiently thorough to ensure that any individual or workgroup who has worked with a mentor or coach has achieved a minimum capability for performing competency-based processes, and
- ☐ reviewed and updated, as necessary.

5. Alternative structures for providing the types of benefits achieved through mentoring are considered when appropriate.

Examples of alternate approaches to mentoring include the following:

- Mentoring circles
- Local professional groups
- A process group or improvement group
- Other support groups or networks, such as a local software process improvement network (SPIN) group

6. Feedback on each mentoring program is collected by a responsible individual(s) to support evaluation of mentoring activities.

Examples of feedback data used to evaluate mentoring programs include the following:

- Feedback received from mentors or those being mentored
- The evaluation of mentoring activities by those being mentored
- Reports from advisors who are available to support mentors or coaches
- Results of meetings conducted from time to time to allow mentors, individuals, or workgroups to express concerns or improvements that should be considered in improving the mentoring programs or mentoring relationships
- Measurements regarding the status, performance, and effectiveness of mentoring activities

7. Each mentoring program is periodically evaluated to ensure that it is achieving its set of objectives and revised or terminated, when necessitated by feedback on the mentoring program, levels of workforce capability, or changes in business strategy or conditions, to improve the value of the mentoring performed.

Practice 3

Each mentoring program is communicated to affected individuals and workgroups.

Information about each mentoring program to be communicated may include the following:

- Program objectives and structure
- The positions, individuals, or workgroups covered in the program
- Procedures for volunteering to act as a mentor
- Procedures for being included as an individual or workgroup receiving mentoring
- Orientation or training requirements

1. Methods are selected to invite participation in the mentoring program based on the objectives established for the mentoring program.

Examples of methods that could be used to invite participation in the mentoring program range from active personal solicitation to passive announcements of the program's availability.

2. Individuals or workgroups are invited to participate in the mentoring program.
3. A responsible individual is available to answer questions about each mentoring program.

Practice 4**Mentors are selected and matched with individuals or workgroups to be mentored.**

1. Criteria are defined for selecting mentors.

Examples of criteria for selecting mentors include the following:

- Commitment to developing knowledge, skills, and process abilities in others
- Commitment to developing and guiding others
- Interpersonal and communication skills, such as the ability to listen, trustworthiness, and objectivity
- Ability to provide a successful role model
- Experience required to mentor various competencies, positions, individuals, or workgroups
- Knowledge required to mentor various competencies, positions, individuals, or workgroups
- Business and organizational judgment
- Availability requirements
- Ability to assess development or career needs
- Ability to provide guidance on performance or career enhancement
- Ability to provide personal support
- Ability to work with workgroups
- Commitment to initial and ongoing mentor training

2. Candidates who have applied for mentoring assignments are evaluated against the criteria, and those who are qualified are selected to act as mentors.
3. Selected mentors are prepared to perform their mentoring responsibilities.

Refer to Ability 3 of this process area for information regarding preparation of mentors.

4. Selected mentors are assigned to individuals or workgroups, based on defined criteria for:
 - ☐ maintaining organizational or managerial distance between the mentor and the individual or workgroup to be mentored,
 - ☐ matching mentors with individuals or workgroups,

Examples of criteria for matching mentors with individuals or workgroups include the following:

- Task, position, or career experiences
- Knowledge and skill needs of the individual or workgroup to be mentored
- Personal development needs of the individual to be mentored
- Workgroup or team development needs
- Common backgrounds
- Career aspirations of the individual or workgroup to be mentored
- Ability to match schedules for meetings
- Personalities or interests
- Level of mentoring involvement
- Exposure to the breadth of the organization
- Geographical considerations

- ☐ ensuring successful transfer of competency-based assets to the individual or workgroup being mentored,

Refer to the Competency-Based Assets process area for information regarding the use of competency-based assets.

- ☐ handling requests for specific mentoring assignments, and

- ☐ having the necessary preparation in relevant mentoring objectives, techniques, and skills.

Practice 5**Mentors and those they mentor establish a mentoring relationship.**

1. Both mentors and those they mentor receive appropriate training or orientation before establishing their mentoring relationship.
2. During their initial meetings, mentors and the individual or workgroup establish the basic agreements on which their relationship will develop.

Examples of issues that they should reach agreement on include the following:

- What they both expect to achieve from the mentoring relationship
- Whether they will meet on a periodic or event-driven basis
- Whether they will build and track a plan for their mentoring activities
- A schedule for their meetings
- Expected duration of the mentoring relationship
- Specific exit criteria, related to the achievement of specific objectives for the mentoring relationship
- How they will evaluate their progress
- How they will conduct their meetings
- How they will communicate between meetings

3. Mentors and the individual or workgroup determine the specific objectives to be accomplished through the mentoring relationship.
4. If competency development is a focus of the mentoring relationship, they evaluate and agree on what knowledge, skills, and process abilities the individual or workgroup needs to develop
5. When establishing a relationship where competency development is an objective, mentors or coaches arrange their responsibilities to ensure that the documented knowledge, skills, and process abilities are:
 - ☐ learned sufficiently to allow those being mentored to perform competency-based activities at the intended level of capability,
 - ☐ imparted on a timely schedule, and
 - ☐ demonstrated in performing business activities.

6. The mentor provides feedback and guidance to those they mentor in a timely manner.
7. The mentor and those they mentor continually discuss the job performance or behavior of the individual or workgroup, and plan for future development needs.

Examples of issues that might be handled during mentoring sessions include the following:

- Evaluation of current performance and behaviors
- Use of time
- Setting priorities
- Self management
- Interpersonal style and skills
- Replaying the handling of situations or the making of decisions
- Identifying strengths and areas needing development
- Analyzing barriers to job performance or career growth
- Identifying needed changes in attitude or style
- Analyzing the processes, resources, and operations of the organization relevant to the individual or workgroup being mentored
- Analyzing career options and needed skills
- Identifying actions and plans to support development needs

Practice 6

Mentors assist individuals or workgroups in developing capability in workforce competencies.

1. Mentors maintain awareness of developments in the workforce competencies relevant to the individuals or workgroups they mentor.
2. Mentors evaluate gaps between the current capability and the capability levels established in the mentoring objectives of the individuals or workgroups they mentor.
3. Mentors assist individuals or workgroups in improving their capability relative to their:
 - ☐ mentoring objectives,
 - ☐ individual development objectives, if appropriate, and

- ☐ workgroup development objectives, if appropriate.
- 4. Mentors assist individuals or workgroups in adopting and improving their capability in using competency-based processes.

An example of a mentor assisting a workgroup in adopting a competency-based process would be the use of a TSP® Launch Coach to help a software team initiate a project using the software development processes incorporated in the Team Software Process® [Humphrey 00]. This example of mentoring involves a person who has been certified by an external entity (the Software Engineering Institute at Carnegie Mellon University authorizes TSP Launch Coaches) to assist individuals or workgroups in developing or improving their capability in specific competency-based processes.

- 5. Mentors provide feedback to those they mentor on their capability and rate of development in workforce competencies and other skills relevant to their mentoring objectives.
- 6. Mentors use competency-based assets in conducting their mentoring activities.
- 7. Mentors assist those they mentor in learning how to leverage or benefit from competency-based assets in performing their business activities.
- 8. When appropriate, mentors can assist individuals or workgroups in using and interpreting data during quantitative management activities.

Mentors are especially valuable to individuals or workgroups who are attempting to manage their competency-based processes quantitatively. The concept of mentor used in the People CMM is broad, and one form of mentor would be a Six Sigma Blackbelt or similarly qualified expert in quantitative process analysis and improvement who assists individuals or workgroups in analyzing and improving their operating processes. Refer to the Quantitative Performance Management process area for information regarding quantitative management practices.

Practice 7**Mentoring relationships are reviewed to ensure that they satisfy their intended objectives.**

1. The mentor and those they mentor review the progress they are making toward their agreed-upon objectives on a periodic or event-driven basis.

Examples of reasons for conducting this review could include the following:

- Normal period for review, as established in the basic agreements on the mentoring relationship that were established between the mentor and those they mentor
- A change in the competency of the those being mentored
- Change in work assignments that cause mentoring to be difficult
- Problems in the mentoring relationship
- Attainment of the goals of the mentoring relationship
- Assigning a new mentor to the individual or workgroup being mentored

2. When problems with mentoring relationships are identified, corrective action is taken to resolve the problem.

Examples of corrective actions include the following:

- Reestablishing the basis for the specific mentoring relationship
- Planning more effective meetings or actions
- Getting additional advice or training on conducting an effective mentoring relationship
- Assigning a new mentor to the individual or workgroup

3. The mentor and individual or workgroup can agree to discontinue their mentoring relationship at any time.

Practice 8**Mentors support the development and improvement of competency-based assets.**

1. Mentors identify opportunities to capture lessons from their mentoring activities that can be incorporated into developing or improving competency-based assets.

Examples of contributions that mentors can make to developing or improving competency-based assets include additions or improvements to the following:

- competency-based processes
- competency development materials or methods
- lessons learned or other information in a knowledge repository
- measures of competency-based processes
- any competency-based asset(s) relevant to a workforce competency

2. Mentors contribute to the development or improvement of competency-based assets through mechanisms that are appropriate for the specific type of asset.

Refer to Practices 4, 5, and 6 of the Competency-Based Assets process area for information regarding the development and maintenance of competency-based assets.

Practice 9**Mentors participate in performance management and related workforce activities, as appropriate.**

1. Mentors hold continuing discussions with the individuals or workgroups they coach on the performance of their work.
2. For the individuals or workgroups they mentor, mentors may provide input for:
 - ☐ formal performance feedback,
 - ☐ training and development needs,
 - ☐ personal development plans,
 - ☐ performance improvement plans,

- ☐ workgroup staffing and composition,
- ☐ decisions regarding adjustments to compensation, or
- ☐ decisions regarding promotion or career advancement.

Practice 10**The organization's workforce practices support mentoring activities, as needed.**

1. Workforce practices are adjusted, as necessary, to achieve the objectives of the organization's mentoring programs.

Examples of areas where workforce practices may need to be adjusted to support mentoring activities include the following:

- Performance management
- Training and development
- Recognition and rewards
- Compensation
- Competency analysis and development
- Career development
- Work environment
- Workgroup development and role definitions
- Quantitative performance management
- Organizational capability management

2. Objectives of the mentoring relationship are confidential and should not be revealed without the agreement of the individual.
3. Objectives and progress in their mentoring relationships are not used in performing any workforce activities without the agreement of the individuals affected.

4. Mentors are recognized for successful mentoring activities.

Examples of recognition for successful mentors include the following:

- Awards
- Public recognition in meetings or newsletters
- Privileges
- Financial considerations
- Acknowledgment for success in mentoring-related performance or career objectives

Measurement and Analysis

Measurement 1

Measurements are made and used to determine the status and performance of Mentoring activities.

Examples of measurements include the following:

- The number of mentoring relationships established
- The rate at which candidates apply to become mentors
- The rate at which new mentors are trained and assigned
- The efficiency with which new mentoring relationships are established
- The frequency with which mentors and those they mentor interact
- The evaluation of mentoring activities by those being mentored
- The number of problems identified and improvements made in mentoring relationships

Measurement 2 Measurements are made and used to determine the effectiveness of Mentoring activities.

Examples of measurements to determine the effectiveness of Mentoring activities include the following:

- The growth of workforce competencies in individuals or workgroups being mentored
- The ability of individuals or workgroups being mentored to use the resources of the organization
- The performance of individuals or workgroups being mentored on their tasks
- The career development of individuals being mentored
- The alignment of individual and workgroup motivations with the objectives of the organization

Verifying Implementation

Verification 1 A responsible individual(s) verifies that Mentoring activities are conducted according to the organization's documented policies, practices, procedures, and, where appropriate, plans; and addresses noncompliance.

These reviews verify that:

1. Mentoring activities comply with the organization's policies and stated values.
2. Mentoring activities comply with relevant laws and regulations.
3. Mentoring activities are performed according to the organization's documented practices and procedures.
4. Noncompliance issues are handled appropriately.

Verification 2 **Executive management periodically reviews Mentoring activities, status, and results; and resolves issues.**

These reviews verify:

1. The appropriateness of Mentoring activities.
2. Progress in performing Mentoring activities.
3. Results from reviews of Mentoring practices and activities.

Refer to Verification 1 for practices regarding reviews of Mentoring activities to ensure adherence to the following:

- Relevant laws and regulations
- Organizational policies, practices, and procedures

4. Status of resolution of noncompliance issues.
5. Trends related to Mentoring.

